Image Steganography Using Java Swing Templates

In this book, you will learn how to use OpenCV, NumPy library and other libraries to perform signal processing, image processing, object detection, and feature extraction with Python GUI (PyQt). You will learn how to filter signals, detect edges and segments, and denoise images with PyQt. You will also learn how to detect objects (face, eye, and mouth) using Haar Cascades and how to detect features on images using Harris Corner Detection, Shi-Tomasi Corner Detector, Scale-Invariant Feature Transform (SIFT), and Features from Accelerated Segment Test (FAST). In Chapter 1, you will learn: Tutorial Steps To Create A Simple GUI Application, Tutorial Steps to Use Radio Button, Tutorial Steps to Group Radio Buttons, Tutorial Steps to Use CheckBox Widget, Tutorial Steps to Use Two CheckBox Groups, Tutorial Steps to Understand Signals and Slots, Tutorial Steps to Convert Data Types, Tutorial Steps to Use Spin Box Widget, Tutorial Steps to Use ScrollBar and Slider, Tutorial Steps to Use List Widget, Tutorial Steps to Select Multiple List Items in One List Widget and Display It in Another List Widget, Tutorial Steps to Insert Item into List Widget, Tutorial Steps to Use Operations on Widget List, Tutorial Steps to Use Combo Box, Tutorial Steps to Use Calendar Widget and Date Edit, and Tutorial Steps to Use Table Widget. In Chapter 2, you will learn: Tutorial Steps To Create A Simple Line Graph, Tutorial Steps To Create A Simple Line Graph in Python GUI, Tutorial Steps To Create A Simple Line Graph in Python GUI: Part 2, Tutorial Steps To Create Two or More Graphs in the Same Axis, Tutorial Steps To Create Two Axes in One Canvas, Tutorial Steps To Use Two Widgets, Tutorial Steps To Use Two Widgets, Each of Which Has Two Axes, Tutorial Steps To Use Axes With Certain Opacity Levels, Tutorial Steps To Choose Line Color From Combo Box, Tutorial Steps To Calculate Fast Fourier Transform, Tutorial Steps To Create GUI For FFT, Tutorial Steps To Create GUI For FFT With Some Other Input Signals, Tutorial Steps To Create GUI For Noisy Signal, Tutorial Steps To Create GUI For Noisy Signal Filtering, and Tutorial Steps To Create GUI For Wav Signal Filtering. In Chapter 3, you will learn: Tutorial Steps To Convert RGB Image Into Grayscale, Tutorial Steps To Convert RGB Image Into YUV Image, Tutorial Steps To Convert RGB Image Into HSV Image, Tutorial Steps To Filter Image, Tutorial Steps To Display Image Histogram, Tutorial Steps To Display Filtered Image Histogram, Tutorial Steps To Filter Image With CheckBoxes, Tutorial Steps To Implement Image Thresholding, and Tutorial Steps To Implement Adaptive Image Thresholding. In Chapter 4, you will learn: Tutorial Steps To Generate And Display Noisy Image, Tutorial Steps To Implement Edge Detection On Image, Tutorial Steps To Implement Image Segmentation Using Multiple Thresholding and K-Means Algorithm, and Tutorial Steps To Implement Image Denoising. In Chapter 5, you will learn: Tutorial Steps To Detect Face, Eye, and Mouth Using Haar Cascades, Tutorial Steps To Detect Face Using Haar Cascades with PyQt, Tutorial Steps To Detect Eye, and Mouth Using Haar Cascades with PyQt, and Tutorial Steps To Extract Detected Objects. In Chapter 6, you will learn: Tutorial Steps To Detect Image Features Using Harris Corner Detection, Tutorial Steps To Detect Image Features Using Shi-Tomasi Corner Detection, Tutorial Steps To Detect Features Using Scale-Invariant Feature Transform (SIFT), and Tutorial Steps To Detect Features Using Features from Accelerated Segment Test (FAST).

This book explains relational theory in practice, and demonstrates through two projects how you can apply it to your use of MySQL and SQLite databases. This book covers the important requirements of teaching databases with a practical and progressive perspective. This book offers the straightforward, practical answers you need to help you do your job. This hands-on tutorial/reference/guide to MySQL and SQLite is not only perfect for students and beginners, but it also works for experienced developers who aren't getting the most from both databases. In designing a GUI and as an IDE, you will make use of Qt Designer. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In chapter three, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In chapter four, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In chapter five, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables. In chapter six, you will create dan configure database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have VARBINARY(MAX) data type. You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In the last chapter, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type,

birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables.

In this book, you will create three Java GUI applications using MySQL, MariaDB, and PostgreSQL. In this book, you will learn how to build from scratch a database management system using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. Gradually and step by step, you will be taught how to utilize three different databases in Java. In chapter one, you will create School database and its six tables. In chapter two, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In chapter three, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six. In chapter four, you will study how to query the six tables. In chapter five, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. In chapter six, you will create Bank database and its tables. In chapter seven, you will learn how to create and store salt passwords and verify them. You will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In chapter eight, you will create an Account table. This account table has the following ten fields: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In chapter nine, you will create a Client_Data table, which has the following seven fields: client_data_id (primary key), account_id (primary_key), birth_date, address, mother_name, telephone, and photo_path. In chapter ten, you will be taught how to create Crime database and its tables. In chapter eleven, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In chapter twelve, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In chapter thirteen, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. In chapter fourteen, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter fifteen, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables.

This book is SQL Server version of our previous works. This book consists of a series of step-by-step tutorials for creating mini projects in integrating pyqt, python, opencv, and SQL Server database. By studying this book, you will understand how to program python GUIs involving opencv and databases in applications. This book is suitable for beginners, students, engineers, and even researchers in a variety of disciplines. No advanced programming experience is needed, and only a few school-level programming skills are needed. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In chapter three, you will create dan configure database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter four, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have VARBINARY(MAX) data type. You will also create GUI to display, edit, insert, and delete for this table. In chapter five, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You

will also create GUI to display, edit, insert, and delete for both tables. In chapter six, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

This book covers how to implement SQLite and SQL Server driven programming with Python GUI. Deliberately designed for various levels of programming skill, this book is suitable for students, engineers, and even researchers in various disciplines. There is no need for advanced programming experience, and school-level programming skills are needed. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In chapter three, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In chapter four, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In chapter five, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables. In chapter six, you will create dan configure database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have VARBINARY(MAX) data type. You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In the last chapter, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

This step-by-step guide to explore database programming using Java is ideal for people with little or no programming experience. The goal of this concise book is not just to teach you Java, but to help you think like a programmer. Each brief chapter covers the material for one week of a college course to help you practice what you've learned. As you would expect, this book shows how to build from scratch two different databases: PostgreSQL and SQLite using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done.In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the second chapter, you will learn querying data from the postgresql using jdbc including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using jdbc, updating data in postgresql database using jdbc, calling postgresql stored function using jdbc, deleting data from a postgresql table using jdbc, and postgresql jdbc transaction. In chapter three, you will create a PostgreSQL database, named School, and its tables. In chapter four, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In chapter five, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six. In chapter six, you will study how to query the six tables. In chapter seven, you will be shown how to create SQLite database and tables with Java. In chapter eight, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. Digital image techniques to extract image features used in this chapted are grascaling, sharpening, invertering, blurring, dilation, erosion, closing, opening, vertical prewitt, horizontal prewitt, Laplacian, horizontal sobel, and vertical sobel. For readers, you can develop it to store other advanced image features based on descriptors such as SIFT and

others for developing descriptor based matching. In chapter nine, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In chapter ten, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. All six fields (except keys) will have a BLOB data type, so that the image of the feature will be directly saved into this table. In chapter eleven, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter twelve, you will add two tables: Victim and Case_File. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File has seven columns: case_file_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/PostgreSL/SQLite pogrammer.

In this book, you will learn how to build from scratch a criminal records management database system using Java / MySQL. All Java code for digital image processing in this book is Native Java. Intentionally not to rely on external libraries, so that readers know in detail the process of extracting digital images from scratch in Java. There are only three external libraries used in this book: Connector / J to facilitate Java to MySQL connections, JCalendar to display calendar controls, and JFreeChart to display graphics. Digital image techniques to extract image features used in this book are grascaling, sharpening, invertering, blurring, dilation, erosion, closing, opening, vertical prewitt, horizontal prewitt, Laplacian, horizontal sobel, and vertical sobel. For readers, you can develop it to store other advanced image features based on descriptors such as SIFT and others for developing descriptor based matching. In the first chapter, you will be shown the number of devices needed to be downloaded and installed. You need to know how to add external libraries to the NetBeans environment. These tools are needed so that you can run the Java scripts. In the second chapter, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. In the third chapter, you will learn how to create and store salt passwords and verify them. You will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In the fourth chapter, you will create an Account table. This account table has the following ten fields: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In the fifth chapter, You create a table with the name of the Account, which has ten columns: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In the sixth chapter, you will create a Client_Data table, which has the following seven fields: client_data_id (primary key), account_id (primary_key), birth_date, address, mother_name, telephone, and photo_path. In the seventh chapter, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In the eighth chapter, you will be taught how to create Crime database and its tables. In nineth chapter, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In the tenth chapter, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. All six fields (except keys) will have a BLOB data type, so that the image of the feature will be directly saved into this table. In the eleventh chapter, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In the twelfth chapter, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables.

In this book, you will create three desktop applications using Java GUI and PostgreSQL. In this book, you will learn how to build from scratch a PostgreSQL database management system using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. Gradually and step by step, you will be taught how to utilize PostgreSQL in Java. In chapter one, you will create School database and its six tables. In chapter two, you will study: Creating the initial three table projects in the school

database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In chapter three, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six. In chapter four, you will study how to query the six tables. In chapter five, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. In chapter six, you will create Bank database and its tables. In chapter seven, you will learn how to create and store salt passwords and verify them. You will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In chapter eight, you will create an Account table. This account table has the following ten fields: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In chapter nine, you will create a Client_Data table, which has the following seven fields: client_data_id (primary key), account_id (primary_key), birth_date, address, mother_name, telephone, and photo_path. In chapter ten, you will be taught how to create Crime database and its tables. In chapter eleven, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In chapter twelve, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In chapter thirteen, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. In chapter fourteen, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter fifteen, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables.

This book is Java/MariaDB version of our previous books which used Java/MySQL and Java/PostgreSQL. In this book, you will learn how to build from scratch a criminal records management database system and simple bank database system using Java/MariaDB. All Java code for digital image processing in this book is Native Java. Intentionally not to rely on external libraries, so that readers know in detail the process of extracting digital images from scratch in Java. There are only three external libraries used in this book: Connector/J to facilitate Java to MariaDB connections, JCalendar to display calendar controls, and JFreeChart to display graphics. Digital image techniques to extract image features used in this book are grascaling, sharpening, invertering, blurring, dilation, erosion, closing, opening, vertical prewitt, horizontal prewitt, Laplacian, horizontal sobel, and vertical sobel. For readers, you can develop it to store other advanced image features based on descriptors such as SIFT and others for developing descriptor based matching. In the first chapter, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. In the second chapter, you will learn how to create and store salt passwords and verify them. You will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In the third chapter, you will create an Account table. This account table has the following ten fields: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In the fourth chapter, You create a table with the name of the Account, which has ten columns: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In the fifth chapter, you will create a Client_Data table, which has the following seven fields: client_data_id (primary key), account_id (primary_key), birth_date, address, mother_name, telephone, and photo_path. In the sixth chapter, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In the seventh chapter, you will be taught how to create Crime database and its tables. In nineth chapter, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In the eighth chapter, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. All six fields (except keys) will have a BLOB data type, so that the image of the feature will be directly saved into this table. In the nineth chapter, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In the eleventh chapter, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address,

telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful for you.

This is a comprehensive, in-depth introduction to the core Java language book. This book will help you quickly write efficient, high-quality SQL-Server-based code with Java. It's an ideal way to begin, whether you're new to programming or a professional developer versed in other languages. The lessons in this book are a highly organized and well-indexed set of tutorials meant for students and programmers. Netbeans, a specific IDE (Integrated Development Environment) is used to create GUI (Graphical User Interface applications).The finished product is the reward, but the readers are fully engaged and enriched by the process. This kind of learning is often the focus of training. In this book, you will learn how to build from scratch a SQL Server database management system using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. Gradually and step by step, you will be taught how to use SQL Server in Java. In chapter one, you will be taught how to create Crime database and its tables. In chapter two, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In chapter three, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In chapter four, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. In chapter five, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter six, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. In chapter seven, you will create School database and six tables. In chapter eight, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In chapter nine, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six. In the last chapter, you will study how to query the six tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/SQL Server programmer.

In this book, you will create two desktop applications using Python GUI and MariaDB. This book is mariadb-based python programming Intentionally designed for various levels of interest and ability of learners, this book is suitable for students, engineers, and even researchers in a variety of disciplines. No advanced programming experience is needed, and only a few school-level programming skill are needed. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In third chapter, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In fourth chapter, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In chapter five, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables. In chapter six, you will create dan configure database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In chapter nine, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

This book is a comprehensive guide to Python as one of the fastest-growing computer languages including Web and Internet applications. This clear and concise introduction to the Python language is aimed at readers who are already familiar with programming in at least one language. This hands-on book introduces the essential topic of coding and the Python computer language to beginners and pogrammers of all ages. This book explains relational theory in practice, and demonstrates through two projects how you can apply it to your use of PostgreSQL and SQL Server databases. This book covers the important requirements of teaching databases with a practical and progressive perspective. This book offers the straightforward, practical answers you need to help you do your job. This hands-on tutorial/reference/guide to PostgreSQL and SQL Server is not only perfect for students and beginners, but it also works for experienced developers who aren't getting the most from both databases. In designing a GUI and as an IDE, you will make use Qt Designer. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In chapter three, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In chapter

four, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In chapter five, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables. In chapter six, you will get introduction of postgresql. And then, you will learn querying data from the postgresql using Python including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using Python, updating data in postgresql database using Python, calling postgresql stored function using Python, deleting data from a postgresql table using Python, and postgresql Python transaction. In chapter seven, you will create dan configure PotgreSQL database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit, insert, and delete for this table. In chapter nine, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In chapter ten, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

This book covers microsoft acces and SQL Server based GUI programming using pyqt. Intentionally designed for various levels of interest and ability of learners, this book is suitable for students, engineers, and even researchers in a variety of disciplines. No advanced programming experience is needed, and only a few school-level programming skill are needed. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In third chapter, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In fourth chapter, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In chapter five, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables. In chapter six, you will create dan configure database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have VARBINARY(MAX) data type. You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In the last chapter, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

The lessons in this book are a highly organized and well-indexed set of tutorials meant for students and programmers. Netbeans, a specific IDE (Integrated Development Environment) is used to create GUI (Graphical User Interface applications).The finished product is the reward, but the readers are fully engaged and enriched by the process. This kind of learning is often the focus of training. In this book, you will learn how to build from scratch a SQLite database management system using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. Gradually and step by step, you will be taught how to use SQLite in Java. In chapter one, you will learn: How to create SQLite database and six tables In chapter two, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In chapter three, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six tables. In chapter four, you will study how to query the six tables. In chapter five, you will create Bank database and its four tables. In chapter six, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. In chapter seven, you will learn how to create and store salt passwords and verify them. You will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In chapter eight, you will create an Account table. This account table has the following ten fields: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In chapter nine, you will create a Client_Data table, which has the following seven fields: client_data_id (primary key), account_id (primary_key), birth_date, address, mother_name, telephone, and photo_path. In chapter ten, you will create Crime database and its six tables. In chapter eleven, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In chapter twelve, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In chapter thirteen, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. All six fields (except keys) will have a BLOB data type, so that the image of the feature will be directly saved into this

table. In chapter fourteen, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter fifteen, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables.

This book explains relational theory in practice, and demonstrates through two projects how you can apply it to your use of MariaDB and SQLite databases. This book covers the important requirements of teaching databases with a practical and progressive perspective. This book offers the straightforward, practical answers you need to help you do your job. This hands-on tutorial/reference/guide to MariaDB and SQLite is not only perfect for students and beginners, but it also works for experienced developers who aren't getting the most from both databases. In designing a GUI and as an IDE, you will make use Qt Designer. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In chapter three, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In chapter four, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In chapter five, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables. In chapter six, you will create dan configure database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In chapter nine, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

This book is SQL Server-based python programming. Microsoft SQL Server is robust relational database management system used by so many organizations of various sizes including top fortune 100 companies. SQL Server is a relational database management system (RDBMS) developed and marketed by Microsoft. As a database server, the primary function of the SQL Server is to store and retrieve data used by other applications. Deliberately designed for various levels of programming skill, this book is suitable for students, engineers, and even researchers in various disciplines. There is no need for advanced programming experience, and school-level programming skills are needed. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In third chapter, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In fourth chapter, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In the last chapter, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables.

In this book, you will learn how to build from scratch a criminal records management database system using Java / MySQL. All Java code for digital image processing in this book is Native Java. Intentionally not to rely on external libraries, so that readers know in detail the process of extracting digital images from scratch in Java. There are only three external libraries used in this book: Connector / J to facilitate Java to MySQL connections, JCalendar to display calendar controls, and JFreeChart to display graphics. Digital image techniques to extract image features used in this book are grascaling, sharpening, invertering, blurring, dilation, erosion, closing, opening, vertical prewitt, horizontal prewitt, Laplacian, horizontal sobel, and vertical sobel. For readers, you can develop it to store other advanced image features based on descriptors such as SIFT and others for developing descriptor based matching. In the first chapter, you will be shown the number of devices needed to be downloaded and installed. You need to know how to add external libraries to the NetBeans environment. These tools are needed so that you can run the Java scripts. In the second chapter, you will be taught how to create Crime database and its tables. In third chapter, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In the fourth chapter, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In the fifth chapter, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. All six fields (except keys) will have a BLOB data type, so that the image of the feature will be directly saved into this table. In the sixth chapter, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six

columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In the seventh chapter, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful for you.

In this book, you will learn how to use NumPy, Pandas, OpenCV, Scikit-Learn and other libraries to how to plot graph and to process digital image. Then, you will learn how to classify features using Perceptron, Adaline, Logistic Regression (LR), Support Vector Machine (SVM), Decision Tree (DT), Random Forest (RF), and K-Nearest Neighbor (KNN) models. You will also learn how to extract features using Principal Component Analysis (PCA), Linear Discriminant Analysis (LDA), Kernel Principal Component Analysis (KPCA) algorithms and use them in machine learning. In Chapter 1, you will learn: Tutorial Steps To Create A Simple GUI Application, Tutorial Steps to Use Radio Button, Tutorial Steps to Group Radio Buttons, Tutorial Steps to Use CheckBox Widget, Tutorial Steps to Use Two CheckBox Groups, Tutorial Steps to Understand Signals and Slots, Tutorial Steps to Convert Data Types, Tutorial Steps to Use Spin Box Widget, Tutorial Steps to Use ScrollBar and Slider, Tutorial Steps to Use List Widget, Tutorial Steps to Select Multiple List Items in One List Widget and Display It in Another List Widget, Tutorial Steps to Insert Item into List Widget, Tutorial Steps to Use Operations on Widget List, Tutorial Steps to Use Combo Box, Tutorial Steps to Use Calendar Widget and Date Edit, and Tutorial Steps to Use Table Widget. In Chapter 2, you will learn: Tutorial Steps To Create A Simple Line Graph, Tutorial Steps To Create A Simple Line Graph in Python GUI, Tutorial Steps To Create A Simple Line Graph in Python GUI: Part 2, Tutorial Steps To Create Two or More Graphs in the Same Axis, Tutorial Steps To Create Two Axes in One Canvas, Tutorial Steps To Use Two Widgets, Tutorial Steps To Use Two Widgets, Each of Which Has Two Axes, Tutorial Steps To Use Axes With Certain Opacity Levels, Tutorial Steps To Choose Line Color From Combo Box, Tutorial Steps To Calculate Fast Fourier Transform, Tutorial Steps To Create GUI For FFT, Tutorial Steps To Create GUI For FFT With Some Other Input Signals, Tutorial Steps To Create GUI For Noisy Signal, Tutorial Steps To Create GUI For Noisy Signal Filtering, and Tutorial Steps To Create GUI For Wav Signal Filtering. In Chapter 3, you will learn: Tutorial Steps To Convert RGB Image Into Grayscale, Tutorial Steps To Convert RGB Image Into YUV Image, Tutorial Steps To Convert RGB Image Into HSV Image, Tutorial Steps To Filter Image, Tutorial Steps To Display Image Histogram, Tutorial Steps To Display Filtered Image Histogram, Tutorial Steps To Filter Image With CheckBoxes, Tutorial Steps To Implement Image Thresholding, and Tutorial Steps To Implement Adaptive Image Thresholding. You will also learn: Tutorial Steps To Generate And Display Noisy Image, Tutorial Steps To Implement Edge Detection On Image, Tutorial Steps To Implement Image Segmentation Using Multiple Thresholding and K-Means Algorithm, Tutorial Steps To Implement Image Denoising, Tutorial Steps To Detect Face, Eye, and Mouth Using Haar Cascades, Tutorial Steps To Detect Face Using Haar Cascades with PyQt, Tutorial Steps To Detect Eye, and Mouth Using Haar Cascades with PyQt, Tutorial Steps To Extract Detected Objects, Tutorial Steps To Detect Image Features Using Harris Corner Detection, Tutorial Steps To Detect Image Features Using Shi-Tomasi Corner Detection, Tutorial Steps To Detect Features Using Scale-Invariant Feature Transform (SIFT), and Tutorial Steps To Detect Features Using Features from Accelerated Segment Test (FAST). In Chapter 4, In this tutorial, you will learn how to use Pandas, NumPy and other libraries to perform simple classification using perceptron and Adaline (adaptive linear neuron). The dataset used is Iris dataset directly from the UCI Machine Learning Repository. You will learn: Tutorial Steps To Implement Perceptron, Tutorial Steps To Implement Perceptron with PyQt, Tutorial Steps To Implement Adaline (ADAptive LInear NEuron), and Tutorial Steps To Implement Adaline with PyQt. In Chapter 5, you will learn how to use the scikit-learn machine learning library, which provides a wide variety of machine learning algorithms via a user-friendly Python API and to perform classification using perceptron, Adaline (adaptive linear neuron), and other models. The dataset used is Iris dataset directly from the UCI Machine Learning Repository. You will learn: Tutorial Steps To Implement Perceptron Using Scikit-Learn, Tutorial Steps To Implement Perceptron Using Scikit-Learn with PyQt, Tutorial Steps To Implement Logistic Regression Model, Tutorial Steps To Implement Logistic Regression Model with PyQt, Tutorial Steps To Implement Logistic Regression Model Using Scikit-Learn with PyQt, Tutorial Steps To Implement Support Vector Machine (SVM) Using Scikit-Learn, Tutorial Steps To Implement Decision Tree (DT) Using Scikit-Learn, Tutorial Steps To Implement Random Forest (RF) Using Scikit-Learn, and Tutorial Steps To Implement K-Nearest Neighbor (KNN) Using Scikit-Learn. In Chapter 6, you will learn how to use Pandas, NumPy, Scikit-Learn, and other libraries to implement different approaches for reducing the dimensionality of a dataset using different feature selection techniques. You will learn about three fundamental techniques that will help us to summarize the information content of a dataset by transforming it onto a new feature subspace of lower dimensionality than the original one. Data compression is an important topic in machine learning, and it helps us to store and analyze the increasing amounts of data that are produced and collected in the modern age of technology. You will learn the following topics: Principal Component Analysis (PCA) for unsupervised data compression, Linear Discriminant Analysis (LDA) as a supervised dimensionality reduction technique for maximizing class separability, Nonlinear dimensionality reduction via Kernel Principal Component Analysis (KPCA). You will learn: 6.1 Tutorial Steps To Implement Principal Component Analysis (PCA), Tutorial Steps To Implement Principal Component Analysis (PCA) Using Scikit-Learn, Tutorial Steps To Implement Principal Component Analysis (PCA) Using Scikit-Learn with PyQt, Tutorial Steps To Implement Linear Discriminant Analysis (LDA), Tutorial Steps To Implement Linear Discriminant Analysis (LDA) with Scikit-Learn, Tutorial Steps To Implement Linear Discriminant Analysis (LDA) Using Scikit-Learn with PyQt, Tutorial Steps To Implement Kernel Principal Component Analysis (KPCA) Using Scikit-Learn, and Tutorial Steps To Implement Kernel Principal Component Analysis (KPCA) Using Scikit-Learn with PyQt. In Chapter 7, you will learn how to use Keras, Scikit-Learn, Pandas, NumPy and other libraries to perform prediction on handwritten digits using MNIST dataset. You will learn: Tutorial Steps To Load MNIST Dataset, Tutorial Steps To Load MNIST Dataset with PyQt, Tutorial Steps To Implement Perceptron With PCA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement Perceptron With LDA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement Perceptron With KPCA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement Logistic Regression (LR) Model With PCA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement Logistic Regression (LR) Model With LDA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To

Implement Logistic Regression (LR) Model With KPCA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement , Tutorial Steps To Implement Support Vector Machine (SVM) Model With LDA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement Support Vector Machine (SVM) Model With KPCA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement Decision Tree (DT) Model With PCA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement Decision Tree (DT) Model With LDA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement Decision Tree (DT) Model With KPCA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement Random Forest (RF) Model With PCA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement Random Forest (RF) Model With LDA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement Random Forest (RF) Model With KPCA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement K-Nearest Neighbor (KNN) Model With PCA Feature Extractor on MNIST Dataset Using PyQt, Tutorial Steps To Implement K-Nearest Neighbor (KNN) Model With LDA Feature Extractor on MNIST Dataset Using PyQt, and Tutorial Steps To Implement K-Nearest Neighbor (KNN) Model With KPCA Feature Extractor on MNIST Dataset Using PyQt.

This book offers the straightforward, practical answers you need to help you do your job. This hands-on tutorial/reference/guide to PostgreSQL and SQL Server is not only perfect for students and beginners, but it also works for experienced developers who aren't getting the most from PostgreSQL and SQL Server. As you would expect, this book shows how to build from scratch two different databases: PostgreSQL and SQL Server using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. In chapter one, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In chapter two, you will learn querying data from the postgresql using jdbc including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using jdbc, updating data in postgresql database using jdbc, calling postgresql stored function using jdbc, deleting data from a postgresql table using jdbc, and postgresql jdbc transaction. In chapter three, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. You will also learn how to create and store salt passwords and verify them. In chapter four, you will create a PostgreSQL database, named Bank, and its tables. In chapter five, you will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In chapter six, you will create an Account table. This account table has the following ten fields: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In chapter seven, you create a table named Client_Data, which has seven columns: client_data_id (primary key), account_id (primary_key), birth_date, address, mother_name, telephone, and photo_path. In chapter eight, you will be taught how to create a SQL Server database, named Crime, and its tables. In chapter nine, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In chapter ten, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In chapter eleven, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. In chapter twelve, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter thirteen, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/PostgreSQL/SQL Server programmer.

In this book, you will create two MariaDB and PostgreSQL driven projects using PyQt. The step-by-step guide in this book is expected to help the reader's confidence to become a programmer who can solve database programming problems. A progressive project is provided to demonstrate how to apply the concepts of MariaDB and PostgreSQL using Python. In second chapter, you will learn PyQt that consists of a number of Python bindings for cross-platform applications that combine all the strengths of Qt and Python. By using PyQt, you can include all Qt libraries in Python code, so you can write GUI applications in Python. In other words, you can use PyQt to access all the features provided by Qt through Python code. Because PyQt depends on the Qt libraries at run time, you need to install PyQt. In third chapter, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In fourth chapter, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In this chapter, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables. In chapter five, you will create dan configure PotgreSQL database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter six, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit, insert, and delete for

this table. In chapter seven, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In chapter eight, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

This book is designed to introduce programmers to programming and computational thinking through the lens of exploring database. This book offers Python programmers one place to look when they need help guiding to Python as one of the fastest-growing computer languages including Web and Internet applications. This clear and concise introduction to the Python language is aimed at readers who are already familiar with programming in at least one language. This hands-on book introduces the essential topic of coding and the Python computer language to beginners and pogrammers of all ages. This book explains relational theory in practice, and demonstrates through two projects how you can apply it to your use of MariaDB and SQL Server databases. This book covers the important requirements of teaching databases with a practical and progressive perspective. This book offers the straightforward, practical answers you need to help you do your job. This hands-on tutorial/reference/guide to MariaDB and SQL Server is not only perfect for students and beginners, but it also works for experienced developers who aren't getting the most from both databases. In designing a GUI and as an IDE, you will make use Qt Designer. In the first chapter, you will learn to use several widgets in PyQt5: Display a welcome message; Use the Radio Button widget; Grouping radio buttons; Displays options in the form of a check box; and Display two groups of check boxes. In chapter two, you will learn to use the following topics: Using Signal / Slot Editor; Copy and place text from one Line Edit widget to another; Convert data types and make a simple calculator; Use the Spin Box widget; Use scrollbars and sliders; Using the Widget List; Select a number of list items from one Widget List and display them on another Widget List widget; Add items to the Widget List; Perform operations on the Widget List; Use the Combo Box widget; Displays data selected by the user from the Calendar Widget; Creating a hotel reservation application; and Display tabular data using Table Widgets. In chapter three, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In chapter four, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In chapter five, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables. In chapter six, you will create dan configure database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In chapter nine, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

In this book, you will implement two data science projects using Scikit-Learn, Scipy, and other libraries with Python GUI. In Chapter 1, you will learn how to use Scikit-Learn, Scipy, and other libraries to perform how to predict traffic (number of vehicles) in four different junctions using Traffic Prediction Dataset provided by Kaggle (https://www.kaggle.com/fedesoriano/traffic-prediction-dataset/download). This dataset contains 48.1k (48120) observations of the number of vehicles each hour in four different junctions: 1) DateTime; 2) Juction; 3) Vehicles; and 4) ID. In Chapter 2, you will learn how to use Scikit-Learn, NumPy, Pandas, and other libraries to perform how to analyze and predict heart attack using Heart Attack Analysis & Prediction Dataset provided by Kaggle (https://www.kaggle.com/rashikrahmanpritom/heart-attack-analysis-prediction-dataset/download). In Chapter 3, you will learn how to use Scikit-Learn, SVM, NumPy, Pandas, and other libraries to perform how to predict early stage diabetes using Early Stage Diabetes Risk Prediction Dataset provided by Kaggle (https://www.kaggle.com/ishandutta/early-stage-diabetes-risk-prediction-dataset/download). This dataset contains the sign and symptpom data of newly diabetic or would be diabetic patient. This has been collected using direct questionnaires from the patients of Sylhet Diabetes Hospital in Sylhet, Bangladesh and approved by a doctor.

In this book, you will create two desktop applications using Python GUI and MySQL. In this book, you will learn how to build from scratch a MySQL database management system using PyQt. In designing a GUI, you will make use of the Qt Designer tool. Gradually and step by step, you will be taught how to use MySQL in Python. In the first three chapters, you will learn Basic MySQL statements including how to implement querying data, sorting data, filtering data, joining tables, grouping data, subquerying data, dan setting operators. Aside from learning basic SQL statements, you will also learn step by step how to develop stored procedures in MySQL. First, we introduce you to the stored procedure concept and discuss when you should use it. Then, we show you how to use the basic elements of the procedure code such as create procedure statement, if-else, case, loop, stored procedure's parameters. In the fourth chapter, you will learn: How PyQt and Qt Designer are used to create Python GUIs; How to create a basic Python GUI that utilizes a Line Edit and a Push Button. In the fifth chapter, you will study: Creating the initial three table in the School database project: Teacher table, Class table, and Subject table; Creating database configuration files; Creating a Python GUI for viewing and navigating the contents of each table. Creating a Python GUI for inserting and editing tables; and Creating a Python GUI to merge and query the three tables. In chapter six, you will learn: Creating the main form to connect all forms; Creating a project that will add three more tables to the school database: the Student table, the Parent table, and the Tuition table; Creating a Python GUI to view

and navigate the contents of each table; Creating a Python GUI for editing, inserting, and deleting records in each table; Create a Python GUI to merge and query the three tables and all six tables. In chapter seven, you will create new database dan configure it. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit, insert, and delete for this table. In chapter nine, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In chapter ten, you will create two tables, Victim and Case_File. The Vicbtim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

You will learn to create GUI applications using the Qt toolkit. The Qt toolkit, also popularly known as Qt, is a cross-platform application and UI framework developed by Trolltech, which is used to develop GUI applications. You will develop an existing GUI by adding several Line Edit widgets to read input, which are used to set the range and step of the graph (signal). Next, Now, you can use a widget for each graph. Add another Widget from Containers in gui_graphics.ui using Qt Designer. Then, Now, you can use two Widgets, each of which has two canvases. The two canvases has QVBoxLayout in each Widget. Finally, you will apply those Widgets to display the results of signal and image processing techniques.

This covers how to implement SQLite and SQL Server driven Java GUI programming. The lessons in this book are a highly organized and well-indexed set of tutorials meant for students and programmers. Netbeans, a specific IDE (Integrated Development Environment) is used to create GUI (Graphical User Interface applications).The finished product is the reward, but the readers are fully engaged and enriched by the process. This kind of learning is often the focus of training. In this book, you will learn how to build from scratch a SQLite database management system using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. Gradually and step by step, you will be taught how to use SQLite and SQL Server in Java. In chapter one, you will learn: How to create SQLite database and six tables In chapter two, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In chapter three, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six tables. In chapter four, you will study how to query the six tables. In chapter five, you will be taught how to create SQL Server database and its tables. In chapter six, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In chapter seven, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In chapter eight, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. In chapter nine, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter ten, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables.

This is a computer programming book using Python that is focused on effective learning. Intentionally designed for various levels of interest and ability of learners, this book is suitable for students, engineers, and even researchers in a variety of disciplines. No advanced programming experience is needed, and only a few school-level programming skill are needed. The step-by-step guide in this book is expected to help the reader's confidence to become a programmer who can solve database programming problems. A progressive project is provided to demonstrate how to apply the concepts of MariaDB using Python. In second chapter, you will learn PyQt that consists of a number of Python bindings for cross-platform applications that combine all the strengths of Qt and Python. By using PyQt, you can include all Qt libraries in Python code, so you can write GUI applications in Python. In other words, you can use PyQt to access all the features provided by Qt through Python code. Because PyQt depends on the Qt libraries at run time, you need to install PyQt. In third chapter, you will learn: How to create the initial three tables project in the School database: Teacher, Class, and Subject tables; How to create database configuration files; How to create a Python GUI for inserting and editing tables; How to create a Python GUI to join and query the three tables. In fourth chapter, you will learn how to: Create a main form to connect all forms; Create a project will add three more tables to the school database: Student, Parent, and Tuition tables; Create a Python GUI for inserting and editing tables; Create a Python GUI to join and query over the three tables. In the last chapter, you will join the six classes, Teacher, TClass, Subject, Student, Parent, and Tuition and make queries over those tables.

In this book, you will learn how to build from scratch a MySQL database management system using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. Gradually and step by step, you will be taught how to use MySQL in Java. In the first chapter, you will learn: How to install NetBeans, JDK 11, and MySQL Connector/J; How to integrate external libraries into projects; How the basic MySQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the second

chapter, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In the third chapter, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six. In the last chapter, you will study how to query the six tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/MySQL programmer.

In this book, you will create three desktop applications using Java GUI and PostgreSQL. In this book, you will learn how to build from scratch a PostgreSQL database management system using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. Gradually and step by step, you will be taught how to utilize PostgreSQL in Java. In chapter one, you will create School database and its six tables. In chapter two, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In chapter three, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six. In chapter four, you will study how to query the six tables. In chapter five, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. In chapter six, you will create Bank database and its tables. In chapter seven, you learn how to create and store salt passwords and verify them. You will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In chapter eight, you will create an Account table. This account table has the following ten fields: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In chapter nine, you will create a Client_Data table, which has the following seven fields: client_data_id (primary key), account_id (primary_key), birth_date, address, mother_name, telephone, and photo_path. In chapter ten, you will be taught how to create Crime database and its tables. In chapter eleven, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In chapter twelve, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In chapter thirteen, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. In chapter fourteen, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter fifteen, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables.

This step-by-step guide to explore database programming using Java is ideal for people with little or no programming experience. The goal of this concise book is not just to teach you Java, but to help you think like a programmer. Each brief chapter covers the material for one week of a college course to help you practice what you've learned. As you would expect, this book shows how to build from scratch two different databases: MariaDB and SQLite using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. In the first chapter, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. In the second chapter, you will learn how to create and store salt passwords and verify them. You will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In the third chapter, you will create an Account table. This account table has the following ten fields: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In the fourth chapter, You create a table with the name of the Account, which has ten columns: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In the fifth chapter, you will create a Client_Data table, which has the following seven fields: client_data_id (primary key), account_id (primary_key), birth_date, address, mother_name, telephone, and photo_path. In chapter six, you will be shown how to create SQLite database and tables with Java. In chapter seven, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. Digital image techniques to extract image features used in this chapted are grascaling, sharpening, invertering, blurring, dilation, erosion, closing, opening, vertical prewitt, horizontal prewitt, Laplacian, horizontal sobel, and vertical sobel. For readers, you can develop it to store other advanced image features based on descriptors such as SIFT and others for developing descriptor based

matching. In chapter eight, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In chapter nine, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. All six fields (except keys) will have a BLOB data type, so that the image of the feature will be directly saved into this table. In chapter ten, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter eleven, you will add two tables: Victim and Case_File. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File has seven columns: case_file_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/MariaDB/SQLite pogrammer.

A Thesis on Propose and Concert Assessment Of Advance Visual Crypto SystemLulu.comInternational Conference on Computer Applications 2012 :: Volume 02TECHNO FORUM R&D CENTREJAVA GUI WITH MYSQL: Database and Image ProcessingSPARTA PUBLISHING

In this book, you will create two desktop applications using Python GUI and PostgreSQL. This book is a Python/PostgreSQL version of the Python/MySQL book which was written by the author. What underlies the writing of this book is the growing popularity of the PostgreSQL database server lately and more and more programmers migrating from MySQL to PostgreSQL. In this book, you will learn to build a school database project, step by step. A number of widgets from PyQt will be used for the user interface. In the first and second chapter, you will get introduction of postgresql. And then, you will learn querying data from the postgresql using Python including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using Python, updating data in postgresql database using Python, calling postgresql stored function using Python, deleting data from a postgresql table using Python, and postgresql Python transaction. In the fourth chapter, you will study: Creating the initial three table in the School database project: Teacher table, Class table, and Subject table; Creating database configuration files; Creating a Python GUI for viewing and navigating the contents of each table. Creating a Python GUI for inserting and editing tables; and Creating a Python GUI to merge and query the three tables. In chapter five, you will learn: Creating the main form to connect all forms; Creating a project that will add three more tables to the school database: the Student table, the Parent table, and the Tuition table; Creating a Python GUI to view and navigate the contents of each table; Creating a Python GUI for editing, inserting, and deleting records in each table; Create a Python GUI to merge and query the three tables and all six tables. In chapter six, you will create dan configure PotgreSQL database. In this chapter, you will create Suspect table in crime database. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for this table. In chapter seven, you will create a table with the name Feature_Extraction, which has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. The six fields (except keys) will have a VARCHAR data type (200). You will also create GUI to display, edit, insert, and delete for this table. In chapter eight, you will create two tables, Police and Investigator. The Police table has six columns: police_id (primary key), province, city, address, telephone, and photo. The Investigator table has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. You will also create GUI to display, edit, insert, and delete for both tables. In chapter nine, you will create two tables, Victim and Case_File. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File table has seven columns: case_file_id (primary key), suspect_id (foreign key), police_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. You will create GUI to display, edit, insert, and delete for both tables as well.

This book explains relational theory in practice, and demonstrates through two projects how you can apply it to your use of MariaDB and SQL Server databases. This book covers the important requirements of teaching databases with a practical and progressive perspective. This book offers the straightforward, practical answers you need to help you do your job. This hands-on tutorial/reference/guide to MariaDB and SQL Server is not only perfect for students and beginners, but it also works for experienced developers who aren't getting the most from MariaDB and SQL Server. As you would expect, this book shows how to build from scratch two different databases: MariaDB and SQL Server using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. In chapter one, you will learn the basics of cryptography using Java. Here, you will learn how to write a Java program to count Hash, MAC (Message Authentication Code), store keys in a KeyStore, generate PrivateKey and PublicKey, encrypt / decrypt data, and generate and verify digital prints. You will also learn how to create and store salt passwords and verify them. In chapter two, you will create a PostgreSQL database, named Bank, and its tables. In chapter three, you will create a Login table. In this case, you will see how to create a Java GUI using NetBeans to implement it. In addition to the Login table, in this chapter you will also create a Client table. In the case of the Client table, you will learn how to generate and save public and private keys into a database. You will also learn how to encrypt / decrypt data and save the results into a database. In chapter four, you will create an Account table. This account table has the following ten fields: account_id (primary key), client_id (primarykey), account_number, account_date, account_type, plain_balance, cipher_balance, decipher_balance, digital_signature, and signature_verification. In this case, you will learn how to implement generating and verifying digital prints and storing the results into a database. In chapter five, you create a table named Client_Data, which has seven columns: client_data_id (primary key), account_id (primary_key), birth_date, address, mother_name, telephone, and photo_path. In chapter six, you will be taught how to create a SQL Server database, named Crime, and its tables. In chapter seven, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In chapter eight, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id

(primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In chapter nine, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. In chapter ten, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter eleven, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/MariaDB/SQL Server programmer.

Book 1: Practical Data Science Programming for Medical Datasets Analysis and Prediction with Python GUI In this book, you will implement two data science projects using Scikit-Learn, Scipy, and other libraries with Python GUI. In Project 1, you will learn how to use Scikit-Learn, NumPy, Pandas, Seaborn, and other libraries to perform how to predict early stage diabetes using Early Stage Diabetes Risk Prediction Dataset provided by Kaggle. This dataset contains the sign and symptpom data of newly diabetic or would be diabetic patient. This has been collected using direct questionnaires from the patients of Sylhet Diabetes Hospital in Sylhet, Bangladesh and approved by a doctor. You will develop a GUI using PyQt5 to plot distribution of features, feature importance, cross validation score, and prediced values versus true values. The machine learning models used in this project are Adaboost, Random Forest, Gradient Boosting, Logistic Regression, and Support Vector Machine. In Project 2, you will learn how to use Scikit-Learn, NumPy, Pandas, and other libraries to perform how to analyze and predict breast cancer using Breast Cancer Prediction Dataset provided by Kaggle. Worldwide, breast cancer is the most common type of cancer in women and the second highest in terms of mortality rates.Diagnosis of breast cancer is performed when an abnormal lump is found (from self-examination or x-ray) or a tiny speck of calcium is seen (on an x-ray). After a suspicious lump is found, the doctor will conduct a diagnosis to determine whether it is cancerous and, if so, whether it has spread to other parts of the body. This breast cancer dataset was obtained from the University of Wisconsin Hospitals, Madison from Dr. William H. Wolberg. You will develop a GUI using PyQt5 to plot distribution of features, pairwise relationship, test scores, prediced values versus true values, confusion matrix, and decision boundary. The machine learning models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, and Support Vector Machine. Book 2: Step by Step Tutorials For Data Science With Python GUI: Traffic And Heart Attack Analysis And Prediction In this book, you will implement two data science projects using Scikit-Learn, Scipy, and other libraries with Python GUI. In Chapter 1, you will learn how to use Scikit-Learn, Scipy, and other libraries to perform how to predict traffic (number of vehicles) in four different junctions using Traffic Prediction Dataset provided by Kaggle. This dataset contains 48.1k (48120) observations of the number of vehicles each hour in four different junctions: 1) DateTime; 2) Juction; 3) Vehicles; and 4) ID. In Chapter 2, you will learn how to use Scikit-Learn, NumPy, Pandas, and other libraries to perform how to analyze and predict heart attack using Heart Attack Analysis & Prediction Dataset provided by Kaggle. Book 3: BRAIN TUMOR: Analysis, Classification, and Detection Using Machine Learning and Deep Learning with Python GUI In this project, you will learn how to use Scikit-Learn, TensorFlow, Keras, NumPy, Pandas, Seaborn, and other libraries to implement brain tumor classification and detection with machine learning using Brain Tumor dataset provided by Kaggle. This dataset contains five first order features: Mean (the contribution of individual pixel intensity for the entire image), Variance (used to find how each pixel varies from the neighboring pixel 0, Standard Deviation (the deviation of measured Values or the data from its mean), Skewness (measures of symmetry), and Kurtosis (describes the peak of e.g. a frequency distribution). It also contains eight second order features: Contrast, Energy, ASM (Angular second moment), Entropy, Homogeneity, Dissimilarity, Correlation, and Coarseness. The machine learning models used in this project are K-Nearest Neighbor, Random Forest, Naive Bayes, Logistic Regression, Decision Tree, and Support Vector Machine. The deep learning models used in this project are MobileNet and ResNet50. In this project, you will develop a GUI using PyQt5 to plot boundary decision, ROC, distribution of features, feature importance, cross validation score, and predicted values versus true values, confusion matrix, training loss, and training accuracy. This hands-on introduction to database programming using Java is ideal for people with little or no programming experience. The goal of this concise book is not just to teach you Java, but to help you think like a programmer. Each brief chapter covers the material for one week of a college course to help you practice what you've learned. As you would expect, this book shows how to build from scratch two different databases: MySQL and SQLite using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. In the first chapter, you will learn: How to install NetBeans, JDK 11, and MySQL Connector/J; How to integrate external libraries into projects; How the basic MySQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the second chapter, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In the third chapter, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six. In chapter four, you will study how to query the six tables. In chapter five, you will be shown how to create SQLite database and tables with Java. In chapter six, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. Digital image techniques to extract image features used in this chapted are grascaling, sharpening, invertering, blurring, dilation, erosion, closing, opening, vertical prewitt, horizontal prewitt, Laplacian, horizontal sobel, and vertical sobel. For readers, you can develop it to store other advanced image features based on descriptors such as SIFT and others for developing descriptor based matching. In chapter seven, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In chapter eight, you will be taught to create Java GUI to view, edit, insert, and

delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. All six fields (except keys) will have a BLOB data type, so that the image of the feature will be directly saved into this table. In chapter nine, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In chapter ten, you will add two tables: Victim and Case_File. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The Case_File has seven columns: case_file_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/MySQL/SQLite pogrammer.

In this book, you will learn how to build from scratch a criminal records management database system using Java/PostgreSQL. All Java code for digital image processing in this book is Native Java. Intentionally not to rely on external libraries, so that readers know in detail the process of extracting digital images from scratch in Java. There are only three external libraries used in this book: Connector / J to facilitate Java to MySQL connections, JCalendar to display calendar controls, and JFreeChart to display graphics. Digital image techniques to extract image features used in this book are grascaling, sharpening, invertering, blurring, dilation, erosion, closing, opening, vertical prewitt, horizontal prewitt, Laplacian, horizontal sobel, and vertical sobel. For readers, you can develop it to store other advanced image features based on descriptors such as SIFT and others for developing descriptor based matching. In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done.In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the second chapter, you will learn querying data from the postgresql using jdbc including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using jdbc, updating data in postgresql database using jdbc, calling postgresql stored function using jdbc, deleting data from a postgresql table using jdbc, and postgresql jdbc transaction. In third chapter, you will be taught how to extract image features, utilizing BufferedImage class, in Java GUI. In the fourth chapter, you will be taught how to create Crime database and its tables. In the fifth chapter, you will be taught to create Java GUI to view, edit, insert, and delete Suspect table data. This table has eleven columns: suspect_id (primary key), suspect_name, birth_date, case_date, report_date, suspect_ status, arrest_date, mother_name, address, telephone, and photo. In the sixth chapter, you will be taught to create Java GUI to view, edit, insert, and delete Feature_Extraction table data. This table has eight columns: feature_id (primary key), suspect_id (foreign key), feature1, feature2, feature3, feature4, feature5, and feature6. All six fields (except keys) will have a BLOB data type, so that the image of the feature will be directly saved into this table. In the seventh chapter, you will add two tables: Police_Station and Investigator. These two tables will later be joined to Suspect table through another table, File_Case, which will be built in the seventh chapter. The Police_Station has six columns: police_station_id (primary key), location, city, province, telephone, and photo. The Investigator has eight columns: investigator_id (primary key), investigator_name, rank, birth_date, gender, address, telephone, and photo. Here, you will design a Java GUI to display, edit, fill, and delete data in both tables. In the eigthth chapter, you will add two tables: Victim and File_Case. The File_Case table will connect four other tables: Suspect, Police_Station, Investigator and Victim. The Victim table has nine columns: victim_id (primary key), victim_name, crime_type, birth_date, crime_date, gender, address, telephone, and photo. The File_Case has seven columns: file_case_id (primary key), suspect_id (foreign key), police_station_id (foreign key), investigator_id (foreign key), victim_id (foreign key), status, and description. Here, you will also design a Java GUI to display, edit, fill, and delete data in both tables. Finally, this book is hopefully useful for you.

In this book, you will learn how to build from scratch a PostgreSQL database management system using Java. In designing a GUI and as an IDE, you will make use of the NetBeans tool. Gradually and step by step, you will be taught how to utilize PostgreSQL in Java. In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done.In the first chapter, you will learn: How to install NetBeans, JDK 11, and the PostgreSQL connector; How to integrate external libraries into projects; How the basic PostgreSQL commands are used; How to query statements to create databases, create tables, fill tables, and manipulate table contents is done. In the second chapter, you will learn querying data from the postgresql using jdbc including establishing a database connection, creating a statement object, executing the query, processing the resultset object, querying data using a statement that returns multiple rows, querying data using a statement that has parameters, inserting data into a table using jdbc, updating data in postgresql database using jdbc, calling postgresql stored function using jdbc, deleting data from a postgresql table using jdbc, and postgresql jdbc transaction. In the third chapter, you will study: Creating the initial three table projects in the school database: Teacher table, TClass table, and Subject table; Creating database configuration files; Creating a Java GUI for viewing and navigating the contents of each table; Creating a Java GUI for inserting and editing tables; and Creating a Java GUI to join and query the three tables. In the fourth chapter, you will learn: Creating the main form to connect all forms; Creating a project will add three more tables to the school database: the Student table, the Parent table, and Tuition table; Creating a Java GUI to view and navigate the contents of each table; Creating a Java GUI for editing, inserting, and deleting records in each table; Creating a Java GUI to join and query the three tables and all six. In the last chapter, you will study how to query the six tables. Finally, this book is hopefully useful and can improve database programming skills for every Java/PostgreSQL programmer.