



MACHAKOS UNIVERSITY

University Examinations for 2022/2023 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (CLOUD COMPUTING AND INFORMATION SECURITY)

SCO 202: EVENT DRIVEN PROGRAMMING.

DATE: 17/4/2024

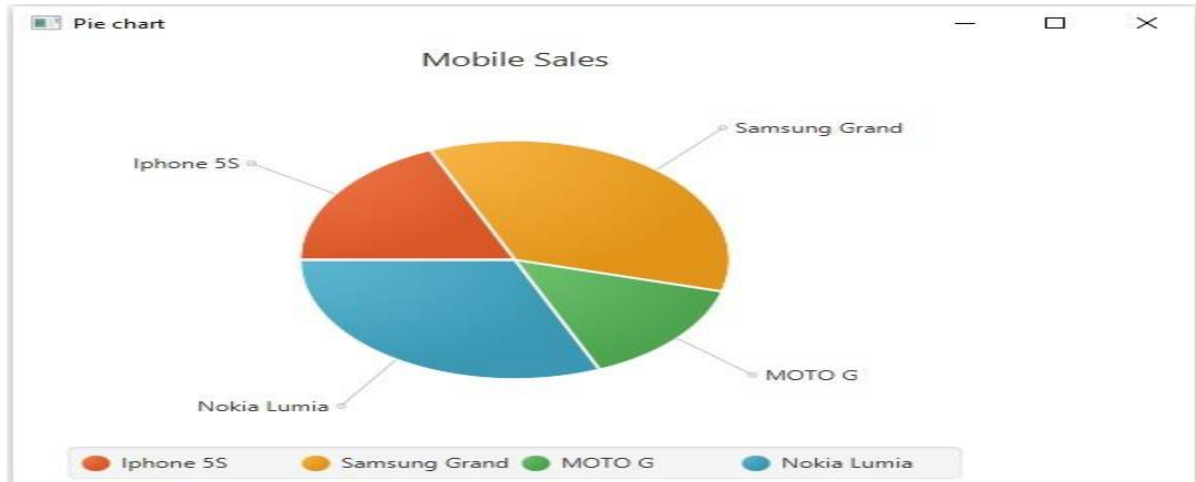
TIME: 11:00 – 1:00 PM

INSTRUCTIONS: Answer Question ONE and other TWO Questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Differentiate between event driven programming and procedural programming. (4 marks)
- b) Explain the use of the following sections of the Inspector Panel. (6 marks)
- (i) Properties
 - (ii) Layout
 - (iii) Code
- c) To create a pie chart in your JavaFX application, at a minimum, you must instantiate the PieChart class, define the data, assign the data items to the PieChart object, and add the chart to the application. Given the data below, write sample code that would render the pie chart below. (8 marks)

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("Iphone 5S", 13),  
("Samsung Grand", 25),  
("MOTO G", 10),  
("Nokia Lumia", 22));
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d) The Scene Builder Main Window has the following parts. Briefly explain the use of each.

(6 marks)

- (i) Menu Bar
 - (ii) Library Panel
 - (iii) Binding Panel
 - (iv) Properties Panel
 - (v) Navigator Bar
 - (vi) Reset window
- e) Write a Java program that converts miles and kilometers, as shown in Figure below. If you enter a value in the Mile text field and press the Enter key, the corresponding kilometer measurement is displayed in the Kilometer text field. Likewise, if you enter a value in the Kilometer textfield and press the Enter key, the corresponding miles is displayed in the Mile text field. Add a button as well.

(6 marks)

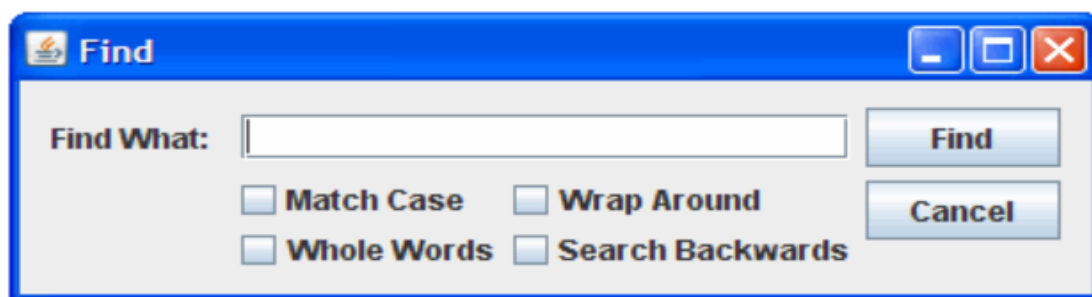


QUESTION TWO (20 MARKS)

- a) For each of the following controls, describe a scenario where you would use them and write some sample code to create each. (5 marks)
- Radio Button
 - Checkbox
 - Password Field
 - Combo Box
 - Text Field
- b) Using a Java code show how to add a frame into your program. (4 marks)
- c) Explain the role played by the MenuBar, menu and menuItem classes. (3 marks)
- d) Mr Wakahare was teaching on how to implement a graphical user interface using java programming language which is one of the efficient ways in allowing users interaction. Write a java programming code that creates an interface with a button and a Textfield. The output MACHAKOS UNIVERSITY should be displayed on a Textfield when one clicks on a button. Ensure all packages are included. (8 marks)

QUESTION THREE (20 MARKS)

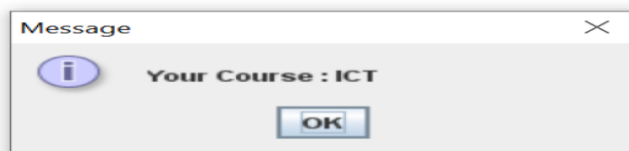
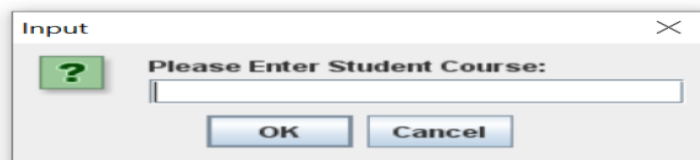
- a) Explain the following Java API packages. (4 marks)
- Java.awt.event
 - Java.sql
 - Java.utic.concurrent
 - Javax.swing
- b) Explain the layout manager that have been used to create the following GUIs? (4 marks)



- c) As a programmer you do connect Java application with the MySQL database;
- Explain the role of Driver class, Connection URL, username and password as used in connection string. (4 marks)
 - Write a source code to connect java application with MYSQL database. Give all the steps as well and sketch the GUI. (8 marks)

QUESTION FOUR (20 MARKS)

- a) Define the following terms. (5 marks)
- Driver class
 - Unit testing
 - Adapter classes
 - Two-tier JDBC architecture
 - JPanel Class
- b) State three real-world examples of companies that have implemented event-driven architectures successfully. (3 marks)
- c) Describe the reserved word 'import' as used in java. Start any four library files that needs to be imported in java application when using database. (4 marks)
- a) Write a source code to implement a GUI that looks like the ones shown below. The application should display your course after you input and click OK button. (8 marks)



QUESTION FIVE (20 MARKS)

- a) JavaFX provides a complete API with a rich set of classes and interfaces to build GUI applications with rich graphics. In this context explain the use of the following important packages of this API. (5 marks)
- javafx.animation
 - javafx.css
 - javafx.event
 - javafx.stage
 - javafx.scene
- b) Outline five MessageTypes for JOptionPane. (5 marks)
- c) As a programmer, you have encountered modal and non-modal dialog windows. Distinguish between the two terms. (2 marks)
- d) Write java program to simulate the calculator given below. (8 marks)

