St Francis Institute of Technology, Mumbai-400 103

Class: SE-ITA/ITB Semester: III; A.Y. 2020-2021
Subject: Java Labs

Title-9: Java Program to implement Event Handling using Swing Components.

1. **Aim:**
   i. Write a java program to store personal telephone directory in such a way that when user hits a character, the names which starts with the character and telephone numbers should appear.
   ii. Write a Java Program to simulate traffic signal light using AWT and Swing Components.

2. **Prerequisite:** Knowledge of AWT and Swing components in Java.

3. **Requirements:** Personal Computer (PC), Windows Operating System, Net beans 8.0.

4. **Pre-Experiment Exercise:**
   Theory:

   a. **Event and Listener:**
   Changing the state of an object is known as an event. For example, click on button, dragging mouse etc. The java.awt.event package provides many event classes and Listener interfaces for event handling.

   We can put the event handling code into one of the following places:

   1. Within class
   2. Other class
   3. Anonymous class

   b. **Registration Methods**
   - **Button**
     public void addActionListener(ActionListener a){ }
   - **MenuItem**
     public void addActionListener(ActionListener a){ }
   - **TextField**
     public void addActionListener(ActionListener a){ }
     public void addTextListener(TextListener a){ }
   - **TextArea**

     public void addTextListener(TextListener a){ }
   - **Checkbox**
     public void addItemListener(ItemListener a){ }
   - **Choice**

public void addItemListener(ItemListener a){}
- **List**
  public void addActionListener(ActionListener a){}
  public void addItemListener(ItemListener a){}

5. Laboratory Exercise

A. Procedure
i. Open Net beans for Java.
ii. Open File and Create New Java Project.
iii. Inside the Java Project rename give name to your Java Class.
iv. Click on Finish.
v. Type the Java Code in the opened class.
vi. Save the code by pressing Ctrl+S.
vii. Run the code by pressing Shift+F6.

B. Program code with comments:

Write and execute your program code to achieve the given aim and attach it **with your own comments with neat indentation**.

6. Post-Experiments Exercise

1. Extended Theory:
1. Explain the java Event classes and Listener Interfaces.

2. Results/Observations/Program output:

Present the program input/output results and comment on the same.

3. Questions/Programs:

1. Write a program to create a window with four text fields for the name, street, city and pincode with suitable labels. Also windows contains a button MyInfo. When the user types the name, his street, city and pincode and then clicks the button, the types details must appear in Arial Font with Size 32, Italics.

2. Conclusion:
1. Write what was performed in the experiment/program.
2. What is the significance of experiment/program?
3. Mention few applications of what was studied.

3. References
1. Balguruswamy, "Programming with java A primer", Fifth edition, Tata McGraw Hill Publication.
2. Let Us Java-Yashwant Kanetkar.
3. Learn to Master JAVA, from Star EDU solutions , by ScriptDemics.
4. Java 8 Programming-Black Book,by-Dreamtech Publications.
5. www.programmingsimplified.com
6. www.javatpoint.com