

St. Francis Institute of Technology, Mumbai-400 103

Department Of Information Technology

A.Y. 2023-2024

Class: SE-ITA/B, Semester: III

Subject: **Java Labs**

Experiment 11

Aim:

- i- Write a java program to create a simple frame in java.
- ii- Write a java program to implement event handling by implementing ActionListener.
- iii- Write a java program to implement event handling by implementing MouseListener.

2. Prerequisite: Knowledge of AWT and Event Handling in Java.

3. Requirements: Personal Computer (PC), Windows Operating System, JDK 1.8 and above and Netbeans IDE.

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.

6. Post-Experiments Exercise

A. Extended Theory:

1. Explain the java Event classes and Listener Interfaces

B. Questions/Programs:

1. Write a Java program to create a simple calculator using java AWT elements.

Use a grid layout to arrange buttons for the digits and basic operation +, -, /, *.

Add a text field to display the results.

C. 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.

D. 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

