SDL 31147

Assignment 4

Title: GUI Programming.

Problem Statement:
Transform the system from command line system to GUI Based application.

Objective:
Understand the implementation of swing GUI in Java.
Learn about various components & action listeners.

Outcome:
After completion of this assignment student can evaluate & analyse the problem and understand the GUI concepts in Java.

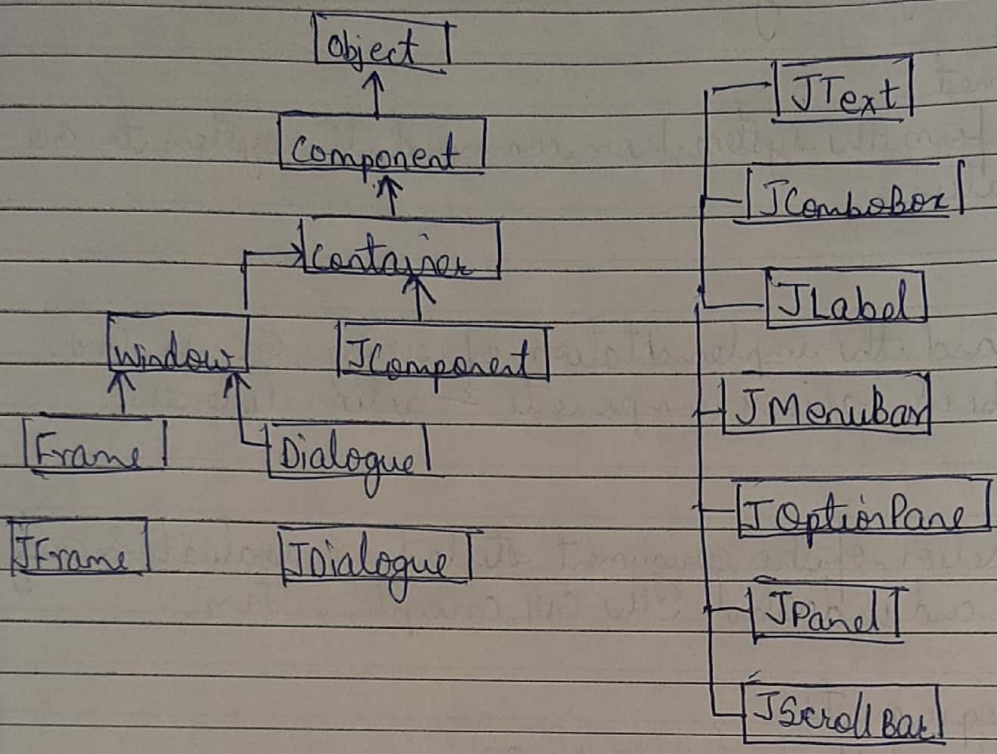
S/W & H/W requirements:
64 bits Fedora / Ubuntu / Windows OS.
Java Development kit, get the version that corresponds with your system
To edit, compile & run your code with help of an application, you can download an Integrated Development Environment (IDE).

Theory
Java swing is a part of Java foundation class (JFC) that is used to create window based application.

It is built on the top of AWT / abstract windowing Toolkit API and entirely written in Java.

Unlike AWT, Java swing provides platform, independent and lightweight components.

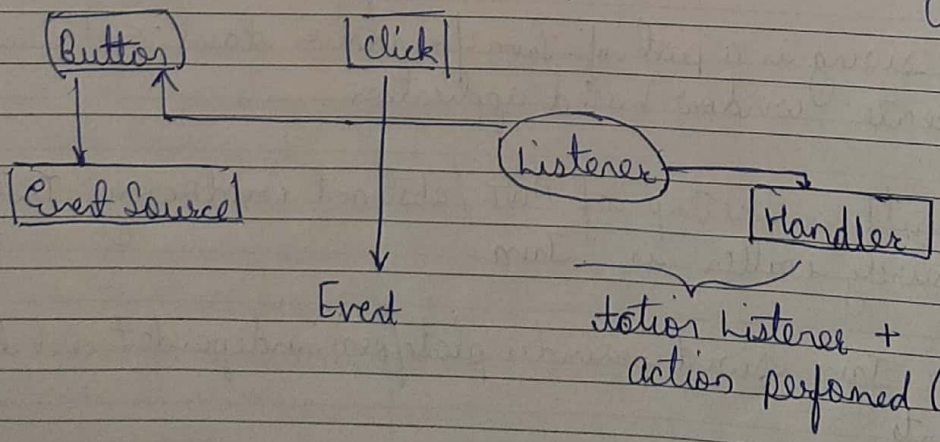
The Javax swing package provides classes for swing API such as JButton, JTextfield, JTextarea, JRadioButton, JCheckbox, JMenu, JColourChooser etc.



All components in swing are JComponents which can be added to container class.

Event listener:

The entire process of event delegation model in swing is:



When a button is clicked it creates an action Event Object & invokes actionPerformed (ActionEvent) method of ActionListener interface.
Event source needs a reference to the object of event handler so that it can call its method.

Event Listeners:

Listener	Purpose
1) Action Listener	- Listens for a component specific event
2) Change Listener	- Listen for change state of component
3) Mouse Listener	- Listen for mouse clicks.
4) Key Listener	- Listens for keyboard activity
5) Window Listener	- Listens for windows handling.
6) Item Listener	- Listens for state change of an Item.

Conclusion:
After successfully completing this assignment students will be able to develop an application more user-friendly.