

Department of Computer Science and Engineering

Object Oriented Programming Through Java (25CS303)

Worksheet

UNIT-5: APPLET, AWT AND SWINGS

A. Multiple Choice Questions

1. Which superclass do all Applet classes directly or indirectly extend?

- A) java.awt.Frame
- B) java.applet.Applet
- C) javax.swing.JFrame
- D) java.awt.Component

Answer: B

2. Which method is called first when an Applet begins execution?

- A) start()
- B) paint()
- C) init()
- D) main()

Answer: C

3. What mechanism does Java use to process events generated by GUI elements?

- A) Model View Controller
- B) Event Delegation Model
- C) Observer-List Model
- D) Thread Pool Model

Answer: B

4. Which package contains classes for AWT event handling in Java?

- A) java.awt.graphics
- B) java.awt.event
- C) javax.swing.event
- D) java.util.event

Answer: B

5. Which layout manager arranges components in five distinct regions: North, South, East, West, and Center?

- A) FlowLayout
- B) GridLayout
- C) BorderLayout
- D) CardLayout

Answer: C

6. Which layout manager places components in a left-to-right, top-to-bottom flow by default?

- A) BorderLayout
- B) FlowLayout
- C) GridLayout
- D) GridBagLayout

Answer: B

7. What type of components are lightweight and written entirely in Java?

- A) AWT Components
- B) C++ Native Controls
- C) Swing Components
- D) Operating System Native Controls

Answer: C

8. Which class serves as the top-level container window with a title bar and border in Swing?

- A) JPanel

B) JComponent

C) JFrame

D) JDialog

Answer: C

9. Adapter classes in event handling provide empty default implementations for which of the following?

A) Event sources

B) Event listener interfaces

C) Event classes

D) Swing components

Answer: B

10. Which Swing component is specifically designed to display hierarchical tree structures?

A) JTable

B) JList

C) JTree

D) JTabbedPane

Answer: C

11. Which Swing component displays data in a two-dimensional grid of rows and columns?

A) JTree

B) JTable

C) JScrollPane

D) JPanel

Answer: B

12. Which Swing component provides a scrollable view of another component?

A) JTabbedPane

B) JScrollPane

C) JDialog

D) JComponent

Answer: B

13. What is the default layout manager for a standard JPanel?

A) BorderLayout

B) GridLayout

C) FlowLayout

D) CardLayout

Answer: C

14. Which AWT component is used to select a single item from a drop-down list of choices?

A) List

B) Choice

C) Button

D) Check box

Answer: B

15. What are listener interfaces with only one abstract method called, often implemented using anonymous inner classes?

A) Functional Interfaces

B) Adapter Classes

C) Event Sources

D) Containers

Answer: A

B. Fill in the Blanks with Answers

1. Applets execute within a web browser or using the **appletviewer** tool.
2. The four core lifecycle methods of an Applet are **init(), start(), stop(), and destroy()**.
3. Event handling in Java is built on the **Delegation** Event Model.
4. An object that generates an event is called an event **source**.
5. An object that receives and handles notifications about an event is called an event **listener**.
6. AWT stands for **Abstract Window Toolkit**.

7. AWT components are called **heavyweight** because they rely on native operating system peers.
8. Swing components are called **lightweight** because they are written completely in Java.
9. The **GridLayout** manager lays out components in a grid of equal-sized cells arranged in rows and columns.
10. The **CardLayout** manager treats each component as a card, showing only one card at a time.
11. Event listener interfaces are imported from the **java.awt.event** package.
12. **Adapter** classes simplify event handling by providing default empty implementations of listener interfaces.
13. The **JTabbedPane** component allows users to switch between a group of components by clicking on a tab.
14. A popup window used to display messages or take simple input in Swing applications is a **JDialog** box.
15. In Swing, most basic GUI elements derive from the abstract **JComponent** superclass.