

1. “A JRadioButton object can be created using many constructors.” Discuss these constructors.

JRadioButton is a Swing component used to create radio buttons where only one option can be selected at a time.

Constructors of JRadioButton:

1. JRadioButton():

Creates an unselected radio button with no text.

2. JRadioButton(String text):

Creates a radio button with specified text.

3. JRadioButton(String text, boolean selected):

Creates a radio button with text and initial selection state.

4. JRadioButton(Icon icon):

Creates a radio button with an icon.

5. JRadioButton(Action a):

Creates a radio button associated with an action.

These constructors provide flexibility in creating radio buttons based on application needs.

2. “A ComboBox contains three components.” Discuss these components.

A ComboBox is a combination of multiple GUI components packed into one.

The three main components of a ComboBox are:

1. Text Field:

Displays the currently selected item.

2. Drop-down List:

Contains the list of selectable items.

3. Arrow Button:

Used to expand or collapse the drop-down list.

These components together provide a compact and user-friendly selection interface.

3. What is the use of JComboBox class? With an example explain the various constructors of JComboBox class.

The JComboBox class is used to create a drop-down list that allows users to select one item from a list.

Constructors of JComboBox:

1. JComboBox():

Creates an empty combo box.

2. JComboBox(Object[] items):

Creates a combo box containing the given array of items.

3. JComboBox(Vector items):

Creates a combo box with items from a vector.

Example:

```
String[] lang = {"Java", "Python", "C++"};
JComboBox cb = new JComboBox(lang);
```

JComboBox improves UI usability and saves screen space.

4. With an example explain the various constructors and methods of JTextArea class.

JTextArea is used to display and edit multiple lines of text.

Constructors:

1. JTextArea()

2. JTextArea(int rows, int columns)

3. JTextArea(String text)

4. JTextArea(String text, int rows, int columns)

Methods:

- setText(String s)

- getText()

- append(String s)

- setEditable(boolean)

Example:

```
JTextArea ta = new JTextArea(5, 20);
ta.setText("Hello Java");
```

JTextArea is commonly used for comments and descriptions.

5. “JTable class is used to display data in tabular form” justify the statement with the help of a program.

JTable is a Swing component used to display data in rows and columns similar to a spreadsheet.

Program:

```
String data[][] = {  
    {"1", "Alice", "90"},  
    {"2", "Bob", "85"}  
};  
String col[] = {"ID", "Name", "Marks"};  
  
JTable jt = new JTable(data, col);  
JScrollPane sp = new JScrollPane(jt);  
  
JFrame f = new JFrame();  
f.add(sp);  
f.setSize(300,200);  
f.setVisible(true);
```

Thus, JTable is ideal for displaying structured data.

6. Write a program to show the implementation of the following: a) JButton class b) JComboBox class

Program:

```
import javax.swing.*;  
  
class Demo {  
    public static void main(String args[]) {  
        JFrame f = new JFrame();  
  
        JButton b = new JButton("Click Me");  
        b.setBounds(50,50,100,30);  
  
        String[] items = {"Red","Green","Blue"};  
        JComboBox cb = new JComboBox(items);  
        cb.setBounds(50,100,100,30);  
  
        f.add(b);  
        f.add(cb);  
  
        f.setSize(300,300);  
        f.setLayout(null);  
        f.setVisible(true);  
    }  
}
```

This program demonstrates the use of JButton and JComboBox components.