

**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 JComboBox contains three components.” Discuss these components.**

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

The three main components of a JComboBox 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.