

JP\_2.2

192325048

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Code :-

```
// JavaBank.java (with light blue company color)

import java.awt.Color;
import javax.swing.JButton;
import javax.swing.JFrame;
import javax.swing.JPanel;

class JavaBank
{
    private final int R = 173;
    private final int G = 216;
    private final int B = 230;
    public static final Color COMPANY_COLOR = new Color(173, 216, 230);

    public void createGUI() {
        JFrame frame = new JFrame("JavaBank");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        JPanel panel = new JPanel();
        panel.setBackground(COMPANY_COLOR);

        JButton button = new JButton("Submit");
        button.setBackground(COMPANY_COLOR);
        panel.add(button);

        frame.add(panel);
        frame.setSize(300, 200);
        frame.setVisible(true);
    }
}
```

```
public static void main(String[] args) {  
    new JavaBank().createGUI();  
}  
}
```

```
interface BikeParts {  
    // Constant declaration  
    public final String MAKE = "Oracle Bikes";  
  
    // Required methods after implementation  
    public String getHandleBars();  
    public void setHandleBars(String newValue);  
    public String getTyres();  
    public void setTyres(String newValue);  
    public String getSeatType();  
    public void setSeatType(String newValue);  
}
```

```
interface MountainParts {  
    // Constant declaration  
    public final String TERRAIN = "off_road";  
  
    // Required methods  
    public String getSuspension();  
    public void setSuspension(String newValue);  
    public String getType();  
    public void setType(String newValue);  
}
```

```
interface RoadParts {  
    // Constant declaration  
    public final String TERRAIN = "track_racing";  
  
    // Required methods  
    public int getTyreWidth();  
    public void setTyreWidth(int newValue);  
    public int getPostHeigh();  
    public void setPostHeigh(int newValue);  
}
```

```
class Bike implements BikeParts {  
    private String handleBars;  
    private String tyres;  
    private String seatType;  
  
    @Override  
    public String getHandleBars() {  
        return handleBars;  
    }  
  
    @Override  
    public void setHandleBars(String newValue) {  
        this.handleBars = newValue;  
    }  
  
    @Override  
    public String getTyres() {  
        return tyres;  
    }  
}
```

```
}
```

```
@Override
```

```
public void setTyres(String newValue) {
```

```
    this.tyres = newValue;
```

```
}
```

```
@Override
```

```
public String getSeatType() {
```

```
    return seatType;
```

```
}
```

```
@Override
```

```
public void setSeatType(String newValue) {
```

```
    this.seatType = newValue;
```

```
}
```

```
}
```

```
class MountainBike extends Bike implements MountainParts {
```

```
    private String suspension;
```

```
    private String type;
```

```
@Override
```

```
public String getSuspension() {
```

```
    return suspension;
```

```
}
```

```
@Override
```

```
public void setSuspension(String newValue) {
```

```
    this.suspension = newValue;
```

```
}
```

```
@Override  
public String getType() {  
    return type;  
}
```

```
@Override  
public void setType(String newValue) {  
    this.type = newValue;  
}  
}
```

```
class RoadBike extends Bike implements RoadParts {  
    private int tyreWidth;  
    private int postHeight;
```

```
@Override  
public int getTyreWidth() {  
    return tyreWidth;  
}
```

```
@Override  
public void setTyreWidth(int newValue) {  
    this.tyreWidth = newValue;  
}
```

```
@Override  
public int getPostHeigh() {  
    return postHeight;  
}
```

```

@Override

public void setPostHeigh(int newValue) {

    this.postHeight = newValue;

}


// Constructor to set default values
public RoadBike() {

    this.setHandleBars("drop");

    this.setSeatType("racing");

    this.setTyres("tread less");

    this.setTyreWidth(19);

    this.setPostHeigh(20);

}

}


public class BikeProject {

    public static void main(String[] args) {

        // Creating an instance of MountainBike

        MountainBike mountainBike = new MountainBike();

        mountainBike.setHandleBars("Wide Handlebars");

        mountainBike.setTyres("Knobby Tires");

        mountainBike.setSeatType("Comfortable Seat");

        mountainBike.setSuspension("Full Suspension");

        mountainBike.setType("Downhill");


        // Displaying MountainBike details

        System.out.println("Mountain Bike:");

        System.out.println("Handlebars: " + mountainBike.getHandleBars());

        System.out.println("Tyres: " + mountainBike.getTyres());
    }
}

```

```
System.out.println("Seat Type: " + mountainBike.getSeatType());
System.out.println("Suspension: " + mountainBike.getSuspension());
System.out.println("Type: " + mountainBike.getType());

// Creating an instance of RoadBike
RoadBike roadBike = new RoadBike();

// Displaying RoadBike details
System.out.println("\nRoad Bike:");
System.out.println("Handlebars: " + roadBike.getHandleBars());
System.out.println("Tyres: " + roadBike.getTyres());
System.out.println("Seat Type: " + roadBike.getSeatType());
System.out.println("Tyre Width: " + roadBike.getTyreWidth());
System.out.println("Post Height: " + roadBike.getPostHeigh());
}
}
```

Output :-

```
C:\Windows\System32\cmd.e X + v
Microsoft Windows [Version 10.0.22631.3958]
(c) Microsoft Corporation. All rights reserved.

C:\Users\nk930\OneDrive\Desktop\java>javac BikeProject.java

C:\Users\nk930\OneDrive\Desktop\java>java BikeProject
Mountain Bike:
Handlebars: Wide Handlebars
Tyres: Knobby Tires
Seat Type: Comfortable Seat
Suspension: Full Suspension
Type: Downhill

Road Bike:
Handlebars: drop
Tyres: tread less
Seat Type: racing
Tyre Width: 19
Post Height: 20

C:\Users\nk930\OneDrive\Desktop\java>
```