2.2-practice(javaprogramming)

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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:

```
Microsoft Windows [Version 10.0.22631.3958]
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C:\Users\e020ax\Downloads\java>javac BikeProject.java

C:\Users\e020ax\Downloads\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\e020ax\Downloads\java>
```