

Module 3: 2.2

Reg no. 192311185

B.S.Udaykiran

1.

```
1 interface BikeParts {
2     String MAKE = "Oracle Bikes";
3     String getHandleBars();
4     void setHandleBars(String newValue);
5     String getTyres();
6     void setTyres(String newValue);
7     String getSeatType();
8     void setSeatType(String newValue);
9 }
10 interface MountainParts {
11     String TERRAIN = "off_road";
12     String getSuspension();
13     void setSuspension(String newValue);
14     String getType();
15     void setType(String newValue);
16 }
17 interface RoadParts {
18     String TERRAIN = "track_racing";
19     String getTyreWidth();
20     void setTyreWidth(String newValue);
21     String getPostHeight();
22     void setPostHeight(String newValue);
23 }
24 class Bike implements BikeParts {
25     private String handleBars;
26     private String tyres;
27     private String seatType;
28     @Override
29     public String getHandleBars() {
30         return handleBars;
31     }
32     @Override
33     public void setHandleBars(String newValue) {
34         this.handleBars = newValue;
35     }
36     @Override
37     public String getTyres() {
38         return tyres;
39     }
}
```

```
34     this.handlebars = newValue;
35 }
36 @Override
37 public String getTyres() {
38     return tyres;
39 }
40 @Override
41 public void setTyres(String newValue) {
42     this.tyres = newValue;
43 }
44 @Override
45 public String getSeatType() {
46     return seatType;
47 }
48 @Override
49 public void setSeatType(String newValue) {
50     this.seatType = newValue;
51 }
52 }
53 class MountainBike extends Bike implements MountainParts {
54     private String suspension;
55     private String type;
56     @Override
57     public String getSuspension() {
58         return suspension;
59     }
60     @Override
61     public void setSuspension(String newValue) {
62         this.suspension = newValue;
63     }
64     @Override
65     public String getType() {
66         return type;
67     }
68     @Override
69     public void setType(String newValue) {
70         this.type = newValue;
71     }
72 }
```

```

73 class RoadBike extends Bike implements RoadParts {
74     private String tyreWidth;
75     private String postHeight;
76     @Override
77     public String getTyreWidth() {
78         return tyreWidth;
79     }
80     @Override
81     public void setTyreWidth(String newValue) {
82         this.tyreWidth = newValue;
83     }
84     @Override
85     public String getPostHeight() {
86         return postHeight;
87     }
88     @Override
89     public void setPostHeight(String newValue) {
90         this.postHeight = newValue;
91     }
92 public class Main {
93     public static void main(String[] args) {
94         Bike bike = new Bike();
95         MountainBike mountainBike = new MountainBike();
96         RoadBike roadBike = new RoadBike();
97         bike.setHandleBars("Drop Bars");
98         bike.setTyres("Mountain Tyres");
99         bike.setSeatType("Comfortable Seat");
100        mountainBike.setHandleBars("Flat Bars");
101        mountainBike.setTyres("Knobby Tyres");
102        mountainBike.setSeatType("Racing Seat");
103        mountainBike.setSuspension("Full Suspension");
104        mountainBike.setType("Trail Bike");
105        roadBike.setHandleBars("Drop Bars");
106        roadBike.setTyres("Thin Tyres");
107        roadBike.setSeatType("Comfortable Seat");
108        roadBike.setTyreWidth("23mm");
109        roadBike.setPostHeight("25");
110        System.out.println("Initial RoadBike Post Height: " + roadBike.getPostHeight());
111        roadBike.setPostHeight("26");

```

```

106        roadBike.setTyres("Thin Tyres");
107        roadBike.setSeatType("Comfortable Seat");
108        roadBike.setTyreWidth("23mm");
109        roadBike.setPostHeight("25");
110        System.out.println("Initial RoadBike Post Height: " + roadBike.getPostHeight());
111        roadBike.setPostHeight("26");
112        System.out.println("Updated RoadBike Post Height: " + roadBike.getPostHeight());
113    }
114 }

```

Output:

```

Initial RoadBike Post Height: 25
Updated RoadBike Post Height: 26

```