

1. Create one superclass HillStations and three subclasses Manali, Mussoorie, Gulmarg. Subclasses extend the superclass and override its location() and famousFor() method. i. call the location() and famousFor() method by the Parent class, i.e. HillStations class. As it refers to the base class object and the base class method overrides the superclass method; the base class method is invoked at runtime. ii. call the location() and famousFor() method by the all subclass, and print accordingly.

```
import java.util.*;
```

```
class HillStations {
```

```
    void location() {
```

```
        System.out.println("Location is: ");
```

```
    }
```

```
    void famousfor() {
```

```
        System.out.println("Famous for: ");
```

```
    }
```

```
    class Manali extends HillStations {
```

```
        void location() {
```

```
            System.out.println("Manali is in Himachal Pradesh");
```

```
        }
```

```
        void famousfor() {
```

```
            System.out.println("It is Famous for Hadimba Temple and adventure sports.");
```

```
        }
```

```
    }
```

```
    class Mussorie extends HillStations {
```

```
        void location() {
```

```
            System.out.println("Mussorie is in Uttarakhand");
```

```
        }
```

```
        void famousfor() {
```

```
            System.out.println("It is Famous for education institutions.");
```

```
        }
```

```
    }
```

```
    class Gulmarg extends HillStations {
```

```
        void location() {
```

```
            System.out.println("Gulmarg is in J&K")
```

```
        void famousfor() {
```

```

        System.out.println("It is Famous for skiing.");
    }
}
}

public class Lab3a {
    public static void main(String[] args) {
        HillStations hillStations = new HillStations();

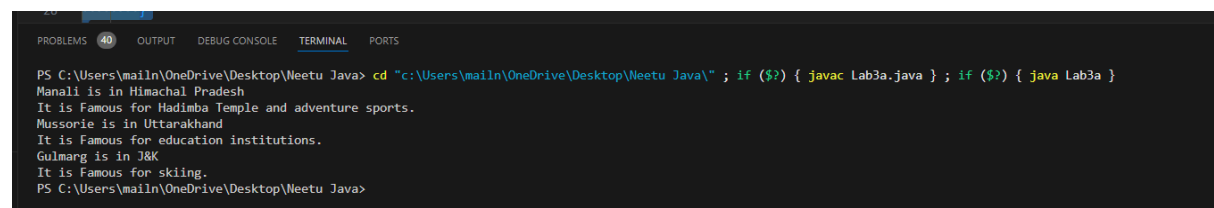
        HillStations.Manali m = hillStations.new Manali();
        HillStations.Mussorie mu = hillStations.new Mussorie();
        HillStations.Gulmarg g = hillStations.new Gulmarg();

        m.location();
        m.famousfor();

        mu.location();
        mu.famousfor();

        g.location();
        g.famousfor();
    }
}

```



```

PS C:\Users\mailn\OneDrive\Desktop\Meetu Java> cd "c:\Users\mailn\OneDrive\Desktop\Meetu Java" ; if ($?) { javac Lab3a.java } ; if ($?) { java Lab3a }
Manali is in Himachal Pradesh
It is Famous for Hadimba Temple and adventure sports.
Mussorie is in Uttarakhand
It is Famous for education institutions.
Gulmarg is in J&K
It is Famous for skiing.
PS C:\Users\mailn\OneDrive\Desktop\Meetu Java>

```

2. Write a Java program that demonstrates method overriding by creating a superclass called Animal and two subclasses called Dog and Cat. • The Animal class should have a method called makeSound(), which simply prints "The animal makes a sound." • The Dog and Cat classes should override this method to print "TheCat/The dog meows/barks" respectively. • The program should allow the user to create and display objects of each class.

```
class Animal{

    public void makeSound(){

        System.out.println("The animal makes a sound...");

    }

    class Catt extends Animal{

        public void makeSound(){

            System.out.println("The Cat Meows...");

        }

    }

    class Dogg extends Animal{

        public void makeSound(){

            System.out.println("The Dog Barks...");

        }

    }

}

public class Lab3b{

    public static void main(String[] args){

        Animal animal=new Animal();

        Animal.Catt cat = animal.new Catt();

        Animal.Dogg dog = animal.new Dogg();

        // Catt cat=new Catt();

        // Dogg dog=new Dogg();

        cat.makeSound();

        dog.makeSound();

    }

}
```

PROBLEMS (30) OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\mailn\OneDrive\Desktop\Neetu Java> cd "c:\Users\mailn\OneDrive\Desktop\Neetu Java\" ; if ($?) { javac Lab3b.java } ; if ($?) { java Lab3b
The Cat Meows...
The Dog Barks...
PS C:\Users\mailn\OneDrive\Desktop\Neetu Java>
```