

INTERFACE PROGRAMS

i)

CODE:

```
interface Shape{
void getArea();
}

class Rectangle implements Shape{
    double lenght,breadth;

    Rectangle(double lenght, double breadth) {
        this.lenght = lenght;
        this.breadth = breadth;
    }

    public void getArea(){
        System.out.println("The area of rectangle
" +(lenght*breadth));
    }
}

class Circle implements Shape{
    double radius;

    Circle(double radius){
        this.radius=radius;
```

```

    }

    public void getArea(){

        System.out.println("The are of circle is
"+(3.14*(radius*radius)));

    }

}

public class Infferface1 {

    public static void main(String[] args) {

        Rectangle r1=new Rectangle(12, 12);

        r1.getArea();

        Circle c1=new Circle(4);

        c1.getArea();

    }

}

```

ii)

CODE:

```
interface Camara{
    void takePhoto();
}

interface MusicPlayer{
    void canPlayMusic();
}

class SmartPhone implements Camara,MusicPlayer{
    public void takePhoto(){
        System.out.println("SmartPhone can take photo");
    }
    public void canPlayMusic(){
        System.out.println("SmartPhone can play music");
    }
}

public class Infferface2 {
    public static void main(String[] args) {
        SmartPhone s1=new SmartPhone();
        s1.canPlayMusic();
        s1.takePhoto();
    }
}
```

iii)

CODE:

```
interface Payment {
```

```
    void initiatePayment(double amount);
```

```
    void getPaymentStatus();
```

```
}
```

```
class CreditCard implements Payment {
```

```
    public void initiatePayment(double amount) {
```

```
        System.out.println("Processing Credit Card payment of  
$" + amount);
```

```
    }
```

```
    public void getPaymentStatus() {
```

```
        System.out.println("Credit Card payment successful!");
```

```
    }
```

```
}
```

```
class PayPal implements Payment {
```

```
    public void initiatePayment(double amount) {
```

```
        System.out.println("Processing PayPal payment of $" +  
amount);  
    }
```

```
    public void getPaymentStatus() {  
        System.out.println("PayPal payment successful!");  
    }  
}
```

```
public class Infferface3 {  
    public static void main(String[] args) {  
        Payment creditCardPayment = new CreditCard();  
        Payment paypalPayment = new PayPal();  
  
        creditCardPayment.initiatePayment(50.0);  
        creditCardPayment.getPaymentStatus();  
  
        paypalPayment.initiatePayment(30.0);  
        paypalPayment.getPaymentStatus();  
    }  
}
```

iv)

CODE:

```
interface Vehicle{
    void start();
    void stop();
}

interface ElectricVehicle{
    void chargeBattery();
}

interface FuelVehicle{
    void refuel();
}

class HybridCar implements
Vehicle,ElectricVehicle,FuelVehicle{
    public void start(){
        System.out.println("Vehicle Started ");
    }
    public void stop(){
        System.out.println("Vehicle Stopped ");
    }

    public void chargeBattery(){
```

```
        System.out.println("Vehicle charging battery ");
    }

    public void refuel(){
        System.out.println("Vehicle refilling the fuel tank ");
    }

}

public class Infferface4 {
    public static void main(String[] args) {
        HybridCar v1=new HybridCar();
        v1.chargeBattery();
        v1.start();
        v1.stop();
        v1.refuel();
    }
}
```