

CSA0985 – PROGRAMMING IN JAVA FOR MOBILE APPLICATIONS

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1. Write java program to create class called the shape with call method get perimeter and get area. Create subclass called circle that overrides the get perimeter and area. Calculate the area ?

Ans : *import java.util.Scanner;*

```
class Shape {  
public double getPerimeter() {  
return 0.0;  
}  
public double getArea() {  
return 0.0;  
}  
}  
  
class Circle extends Shape {  
private double radius;  
public Circle(double radius) {  
this.radius = radius;  
}  
  
@Override  
public double getPerimeter() {
```

```

return 2 * Math.PI * radius;
}

@Override

public double getArea() {
return Math.PI * radius * radius;
}
}

public class Main {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter the radius of the circle: ");

double radius = scanner.nextDouble();

Circle circle = new Circle(radius)

double perimeter = circle.getPerimeter();

double area = circle.getArea();

System.out.println("Perimeter of the circle: " + perimeter);

System.out.println("Area of the circle: " + area);

}

}

```

2. Write a java program to create a class vehicle with method call speedup() create two subclasses car, bike, override the speed increase the vehicle speed differently ?

Ans : *class Vehicle {*

```

private int speed;

public Vehicle() {

```

```
this.speed = 0;

}

public void speedUp() {

    speed += 10; // Default speed increase for all vehicles

}

public int getSpeed() {

    return speed;

}

}

class Car extends Vehicle {

    @Override

    public void speedUp() {

        int carSpeedIncrease = 20;

        int currentSpeed = getSpeed();

        super.speedUp();

        setSpeed(currentSpeed + carSpeedIncrease);

    }

}

class Bike extends Vehicle {

    @Override

    public void speedUp() {

        int bikeSpeedIncrease = 5;

        int currentSpeed = getSpeed();

        super.speedUp();

        setSpeed(currentSpeed + bikeSpeedIncrease);

    }

}
```

```
public class Main {  
  
    public static void main(String[] args) {  
  
        Vehicle vehicle = new Vehicle();  
  
        Car car = new Car();  
  
        Bike bike = new Bike();  
  
        vehicle.speedUp();  
  
        car.speedUp();  
  
        bike.speedUp();  
  
        System.out.println("Vehicle speed: " + vehicle.getSpeed());  
  
        System.out.println("Car speed: " + car.getSpeed());  
  
        System.out.println("Bike speed: " + bike.getSpeed());  
  
    }  
  
}
```