Assignment-02

CSA0992 -

Programming In JAVA for Freshers

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① Write a inheritance program to implement an interface called shape. Now, create three classes Circle, Square, Triangle. The shape interface should contain three methods Radius, Length, height and Base.

⇒

```
interface Shape {
        double radius();
        double length();
        double height();
        double base();
    }

// implement the circle class
class Circle implements shape
{
  private double radius;
  public Circle(double radius) {
        this.radius = radius;
  }
  @Override
    public double length() {
        return 0;
  }
  @Override
```

```
    public double radius() {
        return radius;
    }
    @Override
    public double height() {
        return 0;
    }
    @Override
    public double base() {
        return 0;
    }
}

// implement the Square class.
class Square implements Shape {
    private double side;
    public Square(double side) {
        this.side = side;
    }
    @Override
    public double radius() {
        return 0;
    }
    @Override
    public double length() {
        return side;
    }
```

```
@Override
 Public double height() {
    return side;
 }
 @Override
   public double base() {
      return side;
   }
}

// implement the Triangle class.
 class Triangle implements Shape {
       private double base;
       private double height;
  Public Triangle (double base, double height) {
        this.base = base;
        this.height = height;
}
 @Override
  public double length() {
     return 0;
  }

 @Override
 Public double radius() {
     return 0;
  }
```

```
@Override
  public double height() {
    return height;
  }
  @Override
  public double base() {
    return base;
  }
}

Public class Main {
  public static void main (String [] args) {
      Circle circle = new circle (5);
      Square square = new Square (4);
      Triangle triangle = new Triangle (6,8);

      System.out.println ("Circle Radius:" + circle.radius());
      System.out.println ("Square length:" + square.length() +",
                          Height:" + square.height());
      System.out.println ("Triangle Base:" + triangle.Base() +
                          ",Height:" + triangle.Height());

  }
}
```

Write a program to illustrate polymorphism. Create a class called parent contains 3 methods TV(), radio (int button, double price, string). Now create another class called child. This child class should override an overload the methods in parent class.

⇒

```
Class parent {
 void TV() {
 System.out.println("Watching TV");
}
 void radio (int button, String station){
    System.out:println("Tuning to station" + station +
                        " on button" + button);
}
void phone (int button, String phn num, double price,
            string model) {
System.out.println(" calling" + phn num + "Using Phone
                   model" + model + "(Button:" + button +"
                    Price:" + price + ")");
 }
}
Class child extends Parent {
 @ override
```

```
Void TV() {
System.out.println("Child is watching TV");
}
@Override
 Void radio(int button, String playlist){
System.out.println("Child is playing playlist"+playlist
        +"on radio button"+button);
}
Void phone(int button, String phn num, double price, String
                                                    model) {
System.out.println("Child is calling"+phn nom+"using
      Phone model"+model+"(Button:"+button+", Price:"
            +price+")");
}
}
Public class Main {
  Public static void main(String[] args) {
   Parent Parent obj = new child();
   parent obj.TV();
   Parentobj.radio(2,"Rock");
   Parent obj.phone(1,"123-456-7890", 199.99,
                    "Smartphone");
  }
}
```