## Practical 05 extra questions

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**Q1)**

```
package com.mycompany.testclass1;

public abstract class  BankAccount {
    private int accountNumber;
    private double balance;



    public void setaccnum(int accountNumber){
        this.accountNumber=accountNumber;
    }
    public int getaccnum(){
        return accountNumber;
    }
    public void setbal(double balance){
        this.balance=balance;
    }
    public double getbal(){
        return balance;
    }

     public abstract void calculateIntrest();

     }



package com.mycompany.testclass1;

public class SavingsAccount extends BankAccount{
         private static final double intrest_rate=0.12;

 @Override
 public void calculateIntrest(){
                double intrest=getbal()*intrest_rate;
                 System.out.println("The intrest of savings account is "+intrest);
            }

}

package com.mycompany.testclass1;
```

```
public class CheckingAccount extends BankAccount{
     private static final double intrest_rate=0.2;

 @Override
 public void calculateIntrest(){
              double intrest=getbal()*intrest_rate;
               System.out.println("The intrest of checking account is "+intrest);
           }


}


package com.mycompany.testclass1;

public class TestClass1 {

    public static void main(String[] args) {
       SavingsAccount s=new SavingsAccount();
       s.setaccnum(12345);
       System.out.println("The account number is "+s.getaccnum());
       s.setbal(100000);
       System.out.println("The balance is "+s.getbal());
       s.calculateIntrest();
       CheckingAccount c=new CheckingAccount();
       c.setaccnum(12345);
       System.out.println("The account Number is "+c.getaccnum());
       c.setbal(100000);
       System.out.println("The balance is "+c.getbal());

       c.calculateIntrest();
    }
    }
```

**Q2)**

```
// Shape interface
public interface Shape {
    double calculateArea();
    double calculatePerimeter();
}

// Circle class implementing Shape interface
public class Circle implements Shape {
    private double radius;

    public Circle(double radius) {
       this.radius = radius;
    }
    // Getter and setter for radius
    public double getRadius() {
        return radius;
    }

    public void setRadius(double radius) {
        this.radius = radius;
    }

    @Override
    public double calculateArea() {
        return Math.PI * radius * radius;
    }

    @Override
    public double calculatePerimeter() {
        return 2 * Math.PI * radius;
    }
}

// Rectangle class implementing Shape interface
public class Rectangle implements Shape {
    private double length;
    private double width;

    public Rectangle(double length, double width) {
        this.length = length;
        this.width = width;
    }

    // Getters and setters for length and width
    public double getLength() {
        return length;
    }

    public void setLength(double length) {
        this.length = length;
    }

    public double getWidth() {
        return width;
    }

    public void setWidth(double width) {
        this.width = width;
    }

    @Override
    public double calculateArea() {
        return length * width;
    }

    @Override
    public double calculatePerimeter() {
        return 2 * (length + width);
    }
}

// Triangle class implementing Shape interface
public class Triangle implements Shape {
    private double side1;
    private double side2;
    private double side3;

    public Triangle(double side1, double side2, double side3) {
        this.side1 = side1;
        this.side2 = side2;
        this.side3 = side3;
    }

    // Getters and setters for sides
    public double getSide1() {
        return side1;
    }

    public void setSide1(double side1) {
        this.side1 = side1;
    }

    public double getSide2() {
        return side2;
    }

    public void setSide2(double side2) {
        this.side2 = side2;
    }

    public double getSide3() {
        return side3;
    }

    public void setSide3(double side3) {
        this.side3 = side3;
    }
```