UTS Praktikum OOP

Nama	: Patricia Joanne
NPM	: 140810160065

1. Animal, Dog, AnimalArray

```
public class Animal {
    private int weight;
    private String[] foodList = new String[5];

    public Animal (int weight){
        this.weight = weight;
    }
    public Animal (int weight, String[] foodList){
        this.weight = weight;
        this.foodList = foodList;
    }
    public void setWeight(int weight){
        this.weight = weight;
    }
    public int getWeight(){
        return weight;
    }
    public void sound(){
        System.out.println("Foo");
    }
    public boolean canEat(String food){
        for (int i=0;i<foodList.length;i++){
            if(food == foodList[i]){
                return true;
            }
        }
        return false;
    }
    public String[] getFoodList(){
        return foodList;
    }
}
```

```java
public class Dog extends Animal {
    private String fur;

    public Dog (int weight, String fur){
        super(weight);
        this.fur = fur;
    }
    public Dog (int weight, String[] foodlist, String fur){
        super(weight);
        foodlist[0] = "Fish";
        foodlist[1] = "Meal";
        foodlist[2] = "Chicken";
        foodlist[3] = "Whiskas";
        this.fur = fur;
    }
    public void setFur (String fur){
        this.fur = fur;
    }
    public String getFur(){
        return fur;
    }
    public void sound(){
        System.out.println("Sound: Woof!");
    }
}
```

```java
public class AnimalArray {
    System.out.println("Patricia Joanne 140810160065");
    private Animal[] animals = new Animal[2];
    private int totalAnimal = 0;

    public void AnimalArray(int arraySize){
    }
    public void addAnimal(Animal animal){
        this.animals[totalAnimal] = animal;
        totalAnimal++;
    }

    public int getTotalAnimal(){
        return totalAnimal;
    }
```

```
    public void printAllAnimal(){
        for (int i=0;i<totalAnimal;i++){
            if(animals[i] instanceof Dog)
                System.out.println("Animal instance: Dog");
            else
                System.out.println("Animal instance: Regular Animal");

            System.out.println("Weight: " +animals[i].getWeight());
            String[] foodList = animals[i].getFoodList();
            System.out.print("Food List: ");
            for (int j=0; j<4; j++){
                System.out.print(foodList[j] +", ");
            }
            System.out.println();
            if(animals[i] instanceof Dog)
                System.out.println("Fur: " +animals[i].getFur());
            animals[i].sound();
            System.out.println();
        }
    }
}
```

2. Circle

```
public interface GeometricObject {
    double getPerimeter();
    double getArea();
}
```

```
public interface Resizeable {
    int resize(int percent);
}
```

```
public class ResizeableCircle {
    ResizeableCircle (double radius){
    }
    int resize(int percent){
    }
}
```

```java
public class Circle {
    private double radius;
    private String color;

    public Circle() {
        radius = 1.0;
    }

    public Circle(double radius){
        this.radius = radius;
    }

    public double getPerimeter(){
        return radius*2*Math.PI;
    }

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

```java
public class TestCircle {
    public static void main(String args[]){
        System.out.println("Patricia Joanne 140810160065");
        Circle c1 = new Circle(25);
        System.out.println("--- Circle 1 ---");
        System.out.println("Radius = 25");
        System.out.println("Perimeter = "+c1.getPerimeter());
        System.out.println("Area = "+c1.getArea());
    }
}
```

```java
public class TestResizeableCircle {
    public static void main(String args[]){
        System.out.println("Patricia Joanne 140810160065");
        Circle c2 = new Circle(25,15);
        System.out.println("--- Circle 2 ---");
        System.out.println("Radius = 25");
        System.out.println("Resize = 15%");
        System.out.println("Perimeter = "+c2.getPerimeter());
        System.out.println("Area = "+c2.getArea());
    }
}
```

```
E:\DOCS\task.bbr\Programming\Java>javac TestCircle.java

E:\DOCS\task.bbr\Programming\Java>java TestCircle
Patricia Joanne 140810160065
--- Circle 1 ---
Radius = 25
Perimeter = 157.07963267948966
Area = 1963.4954084936207
```

3. Customer

```java
public class Customer {
    private String  name;
    private boolean member = false;
    private String  memberType;

    public Customer(String name){
       this.name = name;
    }
    public String getName(){
        return name;
    }
    public boolean isMember(){
        return member;
    }
    public void setMember(boolean member){
        this.member = member;
    }
    public String getMemberType(){
        return memberType;
    }
    public void setMemberType(String type){
        memberType = type;
    }
    public String toString(){
        return("Customer name = "+ this.name
            +"\nMember = "+isMember()+"\nMember Type = "+getMemberType());
    }
}
```

```java
import java.util.Date;

public class Visit {
    private Customer customer;
    private Date date = new Date();
    private double serviceExpense;
    private double productExpense;

    public Visit(String name, Date date){
        this.customer = new Customer(name);
        this.date = date;
    }
    public String getName() {
        return customer.getName();
    }
    public double getServiceExpense(){
        return serviceExpense;
    }
    public void setServiceExpense(double ex){
        serviceExpense = ex;
    }
    public double getProductExpense(){
        return productExpense;
    }
```

```java
    public void setProductExpense(double ex){
        productExpense = ex;
    }
    public double getTotalExpense() {
        return serviceExpense + productExpense;
    }
    public String toString() {
        return String.format("Visit of customer %1$s at date %2$s"
                ,customer.toString(),date.toString());
    }
}
```

```java
public class DiscountRate {
    private double serviceDiscountPremium = 0.2;
    private double serviceDiscountGold    = 0.15;
    private double serviceDiscountSilver  = 0.1;

    private  double productDiscountPremium = 0.1;
    private  double productDiscountGold    = 0.1;
    private  double productDiscountSilver  = 0.1;

    public  double getServiceDiscountRate(String type) {
        switch(type.toUpperCase()) {
            case "PREMIUM": return serviceDiscountPremium;
            case "GOLD":    return serviceDiscountGold;
            case "SILVER":  return serviceDiscountSilver;
        }
        return 0.0;
    }

    public  double getProductDiscountRate(String type) {
        switch(type.toUpperCase()) {
            case "PREMIUM": return productDiscountPremium;
            case "GOLD":    return productDiscountGold;
            case "SILVER":  return productDiscountSilver;
        }
        return 0.0;
    }
}
```

```java
public class Transaksi {
    public static void main(String args[]){

    }
}
```