UNIVERSITY OF ENGINEERING AND TECHNOLOGY, TAXILA

SOFTWARE ENGINEERING

OOP-LAB 6

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REG NO: 20-SE-56

COURSE: OOP-LAB

EXERCISE

There are four errors in the following code. Find all the errors in the following Point class.

```java
public class Point {
int x; // Each Point object has
int y; // an int x and y inside.
public void Point(int initX, int initY) { // Constructor
initX = x;
initY = y;
}
Public static double distanceFromOrigin() { // Returns this point's
int x; // distance from (0, 0).
int y;
double dist = Math.sqrt(x*x + y*y);
return dist;
}
public void translate(int dx, int dy) { // Shifts this point's x/y
int x = x + dx; // by the given amounts.
int y = y + dy;
}
}
```

ERRORS

1. First error is that variables x and y are declared twice .First they are declared in the Point class and than in the translate method.
2. Second error is in the Point constructor where assignment of variables is not done properly.Datatype should be int not init.
3. Third error is in the constructor where void return type is declared whereas constructor has no return type.
4. Last error is in the distanceFromOrigin method because we are trying to access instance variables in the static block
   - The possible solution of this could be that either we should remove static keyword from the method.
   - Or we can make these variables static.

TASK-1

```java
package lab6;
import java.util.Scanner;  //imported scanner class from java
util.Scanner

class Meter {      //created a user class named meter
double feet, meters;
public double feettoMeters(double meters) {  //created a public
method named feettoMeters to do conversion
        if (feet>0)
{
        meters=feet*0.3048;
}
        else
{
        feet=Math.abs(feet);
        meters=feet*0.3048;
}
        return meters;
}
}
public class Lab6_task1 {
    public static void main(String[] args) {

        Meter metr= new Meter();
        Scanner input=new Scanner(System.in);
        System.out.print("ENTER MEASUREMENT IN FEET: ");
            metr.feet=input.nextDouble();
            double Meter=metr.feettoMeters(metr.meters);
            System.out.print("RESULT IN METER WILL BE : " +
Meter +"m");
}
}
```

```java
package lab6;
import java.util.Scanner;   //imported scanner class from java util.Scanner

class Meter {        //created a user class named meter
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        feet=Math.abs(feet);
        meters=feet*0.3048;
}
        return meters;
}
}
public class Lab6_task1 {
    public static void main(String[] args) {

        Meter metr= new Meter();
        Scanner input=new Scanner(System.in);
        System.out.print("ENTER MEASUREMENT IN FEET: ");
            metr.feet=input.nextDouble();
            double Meter=metr.feettoMeters(metr.meters);
            System.out.print("RESULT IN METER WILL BE : " + Meter +"m");
}
}
```

Problems @ Javadoc Declaration Console × Progress Coverage Error Log
<terminated> Lab6_task1 [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Oct 28, 2021, 6:30:20 PM – 6:30:27 PM)

```
ENTER MEASUREMENT IN FEET: 23
RESULT IN METER WILL BE : 7.010400000000001m
```

TASK-2

```java
package lab6;
    class Rectangle { //Created a class name dRectangle

        private double length, width;
            //method to set length and width according to
parameters
        public void Parimeter_method(double length, double
width) {
            this.length=length;
            this.width=width;
        }
        public double getlength() {
            return this.length;
        }
        public double getwidth() {
            return this.width;
```

```java
        }
        public double Perimeter(double L, double W) {
            return 2*L+2*W;
        }
        public double Area(double L, double W) {
            return L*W;
        }
    }
            public class Lab6_task2 {
                public static void main(String[] args) {
                    Rectangle r= new Rectangle();
                    r.Parimeter_method(7.5, 2.6);
                    System.out.print("Rectangle Length: "+
r.getlength());
                    System.out.print("\nRectangle Width: "+
r.getwidth());
                    double
p=r.Perimeter(r.getlength(),r.getwidth());
                    System.out.print("\nRectangle
Perimeter: "+ p);
                    double
A=r.Area(r.getlength(),r.getwidth());
                    System.out.print("\nArea of Rectangle:
"+ A);
                }
            }
```

```java
1  package lab6;
2      class Rectangle { //Created a class name dRectangle
3
4          private double length, width;
5              //method to set length and width according to parameters
6          public void Parimeter_method(double length, double width) {
7              this.length=length;
8              this.width=width;
9          }
10         public double getlength() {
11             return this.length;
12         }
13         public double getwidth() {
14             return this.width;
15         }
16         public double Perimeter(double L, double W) {
17             return 2*L+2*W;
18         }
19         public double Area(double L, double W) {
20             return L*W;
21         }
22     }
23             public class Lab6_task2 {
24                 public static void main(String[] args) {
25                     Rectangle r= new Rectangle();
26                     r.Parimeter_method(7.5, 2.6);
27                     System.out.print("Rectangle Length: "+ r.getlength());
```

Problems @ Javadoc Declaration Console × Progress Coverage Error Log
<terminated> Lab6_task2 [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Oct 28, 2021, 7:10:17 PM – 7:10:18 PM)

```
Rectangle Length: 7.5
Rectangle Width: 2.6
Rectangle Perimeter: 20.2
Area of Rectangle: 19.5
```

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```java
 8                this.width=width;
 9            }
10      public double getlength() {
11                return this.length;
12            }
13      public double getwidth() {
14                return this.width;
15            }
16      public double Perimeter(double L, double W) {
17                return 2*L+2*W;
18            }
19      public double Area(double L, double W) {
20                return L*W;
21            }
22        }

23            public class Lab6_task2 {
24                public static void main(String[] args) {
25                    Rectangle r= new Rectangle();
26                    r.Parimeter_method(7.5, 2.6);
27                    System.out.print("Rectangle Length: "+ r.getlength());
28                    System.out.print("\nRectangle Width: "+ r.getwidth());
29                    double p=r.Perimeter(r.getlength(),r.getwidth());
30                    System.out.print("\nRectangle Perimeter: "+ p);
31                    double A=r.Area(r.getlength(),r.getwidth());
32                    System.out.print("\nArea of Rectangle: "+ A);
33                }
34            }
```

Problems   @ Javadoc   Declaration   Console ×   Progress   Coverage   Error Log

<terminated> Lab6_task2 [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Oct 28, 2021, 7:10:17 PM – 7:10:18 PM)

```
Rectangle Length: 7.5
Rectangle Width: 2.6
Rectangle Perimeter: 20.2
Area of Rectangle: 19.5
```

END