LABORATORY WORK BOOK

Name of the Student : **Mateen . MD**

Class **CSE - C** Semester **I**

Course Code : **AC S D03** Course Name : **OOPs JAVA LAB**

Name of the Course Faculty **Dr. yL . DWIVEDI** Faculty ID : **IARE - 10650**

Exercise Number : **12** Week Number : **12** Date : **19/9/2024**

Roll Number									
2	3	9	5	1	A	0	5	5	B

S. No.	Exercise Number	EXERCISE NAME	Aim/ Preparation	Algorithm / Procedure		Source Code	Program Execution	Viva - Voce	Total
				Performance in the Lab		Calculations and Graphs	Results and Error Analysis		
			4	**4**		**4**	**4**	**4**	**20**
1	12.1	Rectangle class	4	2	2	4	4	4	20
2	12.2	Employee class							
3	12.3	Invoice class							
4									
5									
6									
7									
8									
9									
10									
11									
12									

Signature of the Student

Signature of the Faculty

12.1 Rectangle Class

```java
Public class Rectangle
{
   Public static void main(String args[])
   {
      Rectangle rectangle1 = new Rectangle (1.2f, 3.4f);
      Rectangle rectang2 = new Rectangle ();
      Rectangle rectangle3 = new Rectangle (5.6f, 7.8f);
      System.out.println (rectangle1);
      System.out.println (rectang2):
      System.out.println (rectangle3);
   }
   public Rectangle (){
         length = 1.0f; width = 1.0f;
         private float length;
         private float width;
   }

   public Rectangle (float length, float width){
         this.length = length;
         this.width = width;
   }
   public float get length(){
         return length;
   }
```

```
Public void set length (float length){
        this.length = length; }
    Public float get width(){
        return width;
        }
    Public void set width (float width){
        this.width = width;
        }
    Public double get Area(){
        return length * width;
        }
    Public double get perimeter(){
        return 2* (length + width);
        }
    }
}
```

Result:

Rectangle [length=1.2 , width = 3.4]

Rectangle (length = 1.0, width = 1.0]

Rectangle [length = 5.6, width = 7.8]

  length is 5.6
  width is 7.8

  area is 43.68   perimeter is = 26.80

12.2 Employee class

```
Public class Employee {
        Private int id;
        Private String firstName;
        private String lastName;
        Private int salary;

        Public Employee (int id, String firstName, String lastname
        , int salary)
        {
        this, id = id;
        this.firstName = firstName;
         this. salary = salary;
        }
        Public int getId(){
                returnid;
        }
        Public String get FirstName (){
                return first Name;
        }
         public String get Last Name (){
                return lastName;
        }
```

```
Public void set Salary ( int salary) {
    this, salary = salary;
}

Public int get Annual Salary() {
    return salary * 12;
}

Public int raise Salary (int percent) {
    double increase = (Salary * percent)/100.0;
    Salary + = increase;
    return salary;
}

Public static void main (String args[]) {
    Employee employee = new Employee (8, "peter", "Tax", 2500);
    System out. println(employee);
    employee .set Salary (999);
    System out. print ln ( employee);
```

Result :-

Employee (id = 8, nomme = peter. salary = 2500)
  Id is: 8
  first nomme is: peter
  Cast nomme is: Tom
    Salary is : 999
    nomme is : Peter Tom

12.3   Invoice Class

```java
Public Class Invoice {
        Private String id;
        Private String desc;
        Private int qty;
        Private double unit price;

        Public Invoice (String id, String desc, int qty, double unitprice) {
            this.id = id;
            This.dese = desc;
            this.qty = qty;
            this.unit price = unitprince;
        }

        public string getId () {
            return id;
        }

        public string get Desc() {
            return desc;
        }

        public int get Qty() {
            return qty;
        }

        public void set Unit price (double unit price) {
            this unit pric = unit price; }
```

```java
Public string to string() {
    return " InvoiceItem [id = " + id+ ", desc = " +desc + ", qty "+
                    qty +", unit price = "+ Unit price +");
    }

Public static void main (String arg[]) {
    Invoice item = new Invoice ("A101", "Pen", "Red", 888,008);
    system.out. PointIn (item);
    item. set Qty(999);
    item. set Unit price (0.99);
    system.out. print (item);
    }
  }
}
```

Result :

Invoice (id = A101, desc = pen Red, qty = 888, Price = 0.08]
            Id is : A101

  desc is : pen Red

  qty : 999

  unit price: 099

    Total: 989.01