Assignment No : 1

Student Name:Rajiv Paul **UID:20BCS1812**
Branch: CSE **Section/Group:**
Semester: 3rd **Date of Assignment:20/9/2021**
Subject Name: Java Programming **Subject Code: 21O-20CST-218**

Q1. Write a java program with the initialization earning of an employee.

The program should calculate the income tax to be paid by the employee as per the criteria given below:

Slab rate IT rate

Upto Rs. 50,000 Nil
Upto Rs. 60,000 10% on additional amount
Upto Rs. 1,50,000 20% on additional amount
Above Rs. 1,50,000 30% on the additional amount

Hint: - Run: - java calculates 1,25,000

Code:

```
package com.company;

import java.util.Scanner;
 class Tax
{
    public static void main(String[] args)
    {
        Scanner scan=new Scanner(System.in);
        System.out.print("Enter the earning amount: ");
        int amount=scan.nextInt();
        if(amount<=50000)
        {
            System.out.println("Amount to be paid as income tax is "+ amount);
        }
        else if(amount<=60000)
        {
            amount+=(amount/100)*10;
            System.out.println("Amount to be paid as income tax is "+ amount);
        }
        else if(amount <=150000)
        {
            amount+=(amount/100)*20;
            System.out.println("Amount to be paid as income tax is "+ amount);
        }
        else
        {
            amount+=(amount/100)*30;
            System.out.println("Amount to be paid as income tax is "+ amount);
        }

    }
}
```

Output:

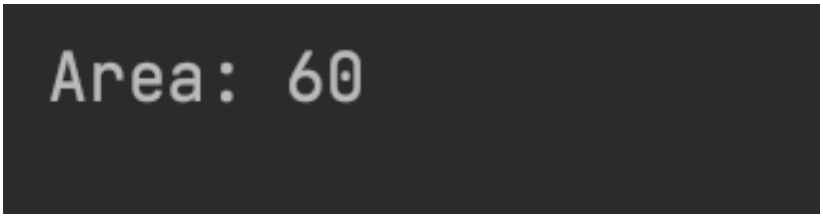
```
Enter the earning amount: 90000
Amount to be paid as income tax is 108000
```

Q2.Write a program to implement encapsulation.

Code:

```
package com.company;

class Area
{
    int length;
    int breadth;

    Area(int length, int breadth)
    {
        this.length = length;
        this.breadth = breadth;
    }

    public void getArea() {
        int area = length * breadth;
        System.out.println("Area: " + area);
    }
}

class Main_class
{
    public static void main(String[] args) {


        Area rectangle = new Area( length: 10, 6);
        rectangle.getArea();
    }
}
```

Output:



Q3. Create a Mobile class with properties, which can be set once while creating object using constructor arguments. Create getProperties() methods which are having public access modifiers.

Code:

```
package com.company;

class Macbook_13_inch
{
 int Ram, Internal_Memory;
 String Processor, Colour;

 Macbook_13_inch(int r, int i, String p, String c) {
  Ram = r;
  Internal_Memory = i;
  Processor = p;
  Colour = c;
 }

 void output() {
  System.out.println("Properties of Macbook 13 inch:");
  System.out.println("Ram: "+Ram + "gb  \nInternal Memory: " + Internal_Memory + "gb  \nProcessor: " + Processor + " \nColour: " + Colour);

 }

 public static void main(String[] args) {
  Macbook_13_inch Mac1 = new Macbook_13_inch( r: 8,  i: 256,  p: "M1",  c: "Space Grey");
  Mac1.output();
 }
}
```

Output:

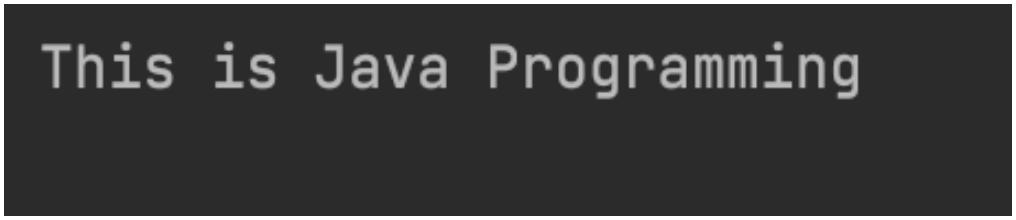
```
Properties of Macbook 13 inch:
Ram: 8gb
Internal Memory: 256gb
Processor: M1
Colour: Space Grey
```

Q4. Write a program to create an abstract class and abstract method and implements all the abstract method.

Code:

```java
package com.company;

abstract class Language {


    public void display() {
        System.out.println("This is Java Programming");
    }
}

class Programming extends Language {

    public static void main(String[] args) {

        Programming obj = new Programming();

        obj.display();
    }
}
```

Output:



Q5. Write a program to calculate area of a circle.

Code:

```
package com.company;
import java.util.Scanner;
class Area_Of_Circle
{
    public static void main(String[] args)
    {

        Scanner s= new Scanner(System.in);

        System.out.print("Enter the radius: ");
        double r= s.nextDouble();
        double  area=3.14*r*r ;
        System.out.println("Area of Circle is: " + area);
    }
}
```

Output:

```
Enter the radius: 5
Area of Circle is: 78.5
```

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			