**Please make sure to save/push all your code in the branch feature-java created in the previous week assignment as part of your github repo rg-assignments**

**Please share your output screenshots in the assignment document along with the github link for each question. Provide an explanation wherever possible as part of your response :-)**



Given:

public class TaxUtil {

double rate = 0.15;

public double calculateTax(double amount) {

return amount \* rate;

}

}

Would you consider the method calculateTax() a 'pure function'? Why or why not?

If you claim the method is NOT a pure function, please suggest a way to make it pure.

Ans. Not a pure function because made the variable as instance where it can be changed lead to a different output

So, inorder to make it as a pure function we need to make that variable as a constant or as a parameter to the function

2)

What will be the output for following code?

class Super

{

static void show()

{

System.out.println("super class show method");

}

static class StaticMethods

{

void show()

{

System.out.println("sub class show method");

}

}

public static void main(String[]args)

{

Super.show();

new Super.StaticMethods().show();

}

}

A screenshot of a computer

AI-generated content may be incorrect.

3)

What will be the output for the following code?

class Super

{

int num=20;

public void display()

{

System.out.println("super class method");

}

}

public class ThisUse extends Super

{

int num;

public ThisUse(int num)

{

this.num=num;

}

public void display()

{

System.out.println("display method");

}

public void Show()

{

this.display();

display();

System.out.println(this.num);

System.out.println(num);

}

public static void main(String[]args)

{

ThisUse o=new ThisUse(10);

o.show();

}

}

Ans . The class provided in the snippet is show but the class name must be Show. If it is show class then we will get a Error

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4) What is the singleton design pattern? Explain with a coding example.

Ans. A class which allows to create a single instance is called a singleton pattern  
<https://github.com/paulkiranpeteti/rg-assignments/blob/feature-java/Singleton.java>

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5) How do we make sure a class is encapsulated? Explain with a coding example.

Ans. Binding the member data and method data into a single unit is called as encapsulation. To encapsulate a class we need make the member data of the class as private

<https://github.com/paulkiranpeteti/rg-assignments/blob/feature-java/Employee.java>

6)

Perform CRUD operation using ArrayList collection in an EmployeeCRUD class for the below Employee

class Employee{

private int id;

private String name;

private String department;

}

Ans. <https://github.com/paulkiranpeteti/rg-assignments/blob/feature-java/EmployeeCRUD.java>

7) Perform CRUD operation using JDBC in an EmployeeJDBC class for the below Employee

class Employee{

private int id;

private String name;

private String department;

}

Ans. <https://github.com/paulkiranpeteti/rg-assignments/blob/feature-java/EmployeeJDBC.java>