1. 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.

Explanation:

#### ****Definition of a Pure Function****

A **pure function** is a function that:

1. Always produces the same output for the same inputs.
2. Does **not depend on or modify any external state**.
3. Has **no side effects** (e.g., printing to console, modifying global variables, reading/writing files, etc.).

The calculateTax() method is **not pure**, because:

1. It **depends on the instance variable** rate, which is declared outside the method.
2. If the value of rate is changed elsewhere in the code, the result of calculateTax() will also change, even though the input amount stays the same.
3. This violates the definition of a pure function.

#### ****How to Make It****

#### **Pure** To make the method pure, we should pass **all necessary values as parameters**

#### Screenshot 2025-07-09 223559