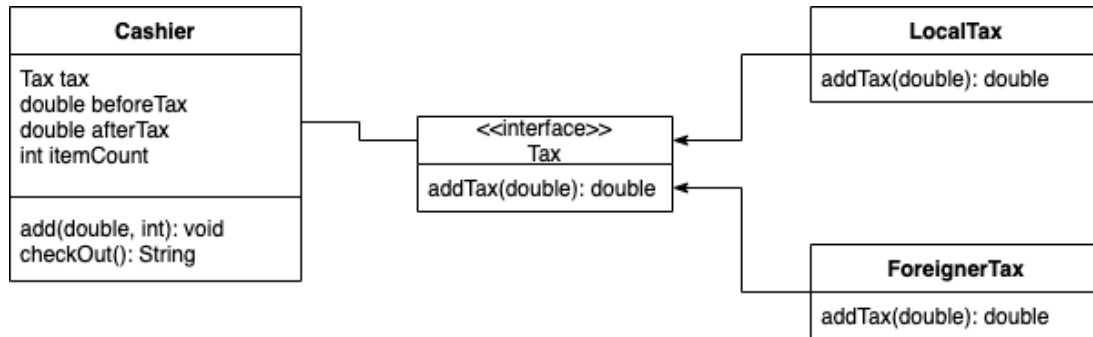


### Lab 13

Create a new Eclipse project named **YourStudentId\_Lab13**. Following diagram shows the relationship of each class.



1. Implement the interface.
2. Implement **LocalTax** and **ForeignerTax**.  
For local, the tax is 5%.  
For foreigner, if the amount is greater than 2000, it is tax-free; otherwise, the tax is also 5%.
3. Implement **Cashier**.

Cashier	
Modifier and type	Method (or Variable) and description
<b>Instance variable</b>	
<b>Tax</b>	tax The applied tax policy.
<b>double</b>	beforeTax Subtotal amount before calculating the tax.
<b>double</b>	afterTax Total amount after calculating the tax.
<b>int</b>	itemCount Total amount of item purchased.
<b>Constructor</b>	
<b>Cashier(Tax aTax)</b> Constructs a cashier object with given tax object and set other attributes as 0.	
<b>Instance methods</b>	
<b>void</b>	add(double price, int amount) Calculates the subtotal of this transaction and updates <b>beforeTax</b> .
<b>String</b>	checkOut() Calculates the tax, update the value of <b>afterTax</b> , and returns a String description. (See output below.)

Tester for your reference:

```
import java.util.Scanner;

public class Tester {

    public static void main(String[] args) {

        Tax tax = new LocalTax();
        Cashier cashier1 = new Cashier(tax);

        Scanner scanner = new Scanner(System.in);
        while(true) {
            System.out.println("Input format: price amount. 'd' for checkout");
            String input = scanner.next();
            if(!"d".equals(input)) {
                double price = Double.parseDouble(input);
                int amount = scanner.nextInt();
                cashier1.add(price, amount);
            }
            else {
                break;
            }
        }
        scanner.close();
        System.out.println(cashier1.checkOut());

        System.out.println("-----");

        Tax foreignerTax = new ForeignerTax();
        Cashier cashier2 = new Cashier(foreignerTax);
        cashier2.add(1000, 2);
        cashier2.add(1500, 1);
        System.out.println(cashier2.checkOut());

    }

}
```

Output:

```
Input format: price amount. 'd' for checkout
400 3
Input format: price amount. 'd' for checkout
600 5
Input format: price amount. 'd' for checkout
d
Input format: price amount. 'd' for checkout
Total amount: 8
Before tax: 4200.0
After tax: 4410.0
-----
Total amount: 3
Before tax: 3500.0
After tax: 3500.0
```

**Submission:** Submit your project as “zip (or rar) file” via WM5. No other submissions will be graded.

**Reminder:** Please zip **the whole project**

**Deadline:** Tomorrow’s midnight (for both Mon56 and Tue23)