

Course Number	CSci 120
Descriptive Title	Object-oriented Programming
Programming Language	Java

Problem Set Number	7
Problem Number	1
Activity Title	Use the Singleton Design Pattern

Objective

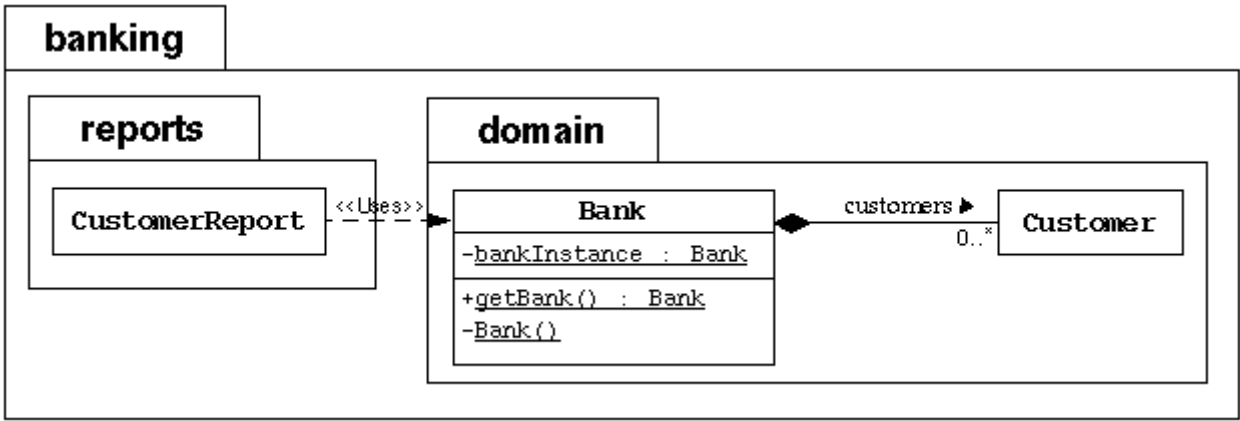
In this exercise you will modify the `Bank` class to implement the Singleton design pattern.

Directions

Start by changing your working directory to Problem Set 7/ Problem 1 on your computer. Copy your all of the Java files from Problem Set 6/Problem 2/banking into the `banking.domain` package directory.

Note: At this stage the Banking Project has need for a more complex package hierarchy because we will be creating a `CustomerReport` class which belongs in the `banking.reports` package. Therefore, the "domain" classes need to be placed in the `banking/domain` directory. Also, you will need to change the package declaration for each of these files.

Modify the Bank Class to Implement the Singleton Design Pattern



1. Modify the `Bank` class to create a public static method, called `getBank`, that returns an instance of the `Bank` class.
2. The single instance should be a static attribute and should be private. Likewise, make the `Bank` constructor private.

Modify the CustomerReport Class

In the previous Banking Project exercise, the "customer report" was embedded in the `main` method of the `TestBanking` program. In this exercise, this code has been pulled out into the `CustomerReport` class in the `banking.reports` package. Your task will be to modify this class to use the Singleton bank object.

1. Hunt for the line of code marked by the comment block `/** ... */`. Modify this line to retrieve the Singleton bank object.

Compile and Run the TestBanking Program

1. Compile and run this program. You should see the following output.

```
CUSTOMERS REPORT
=====

Customer: Simms, Jane
Savings Account: current balance is 500.00
Checking Account: current balance is 200.00

Customer: Bryant, Owen
Checking Account: current balance is 200.00
```

Customer: Soley, Tim  
Savings Account: current balance is 1,500.00  
Checking Account: current balance is 200.00

Customer: Soley, Maria  
Checking Account: current balance is 200.00  
Savings Account: current balance is 150.00