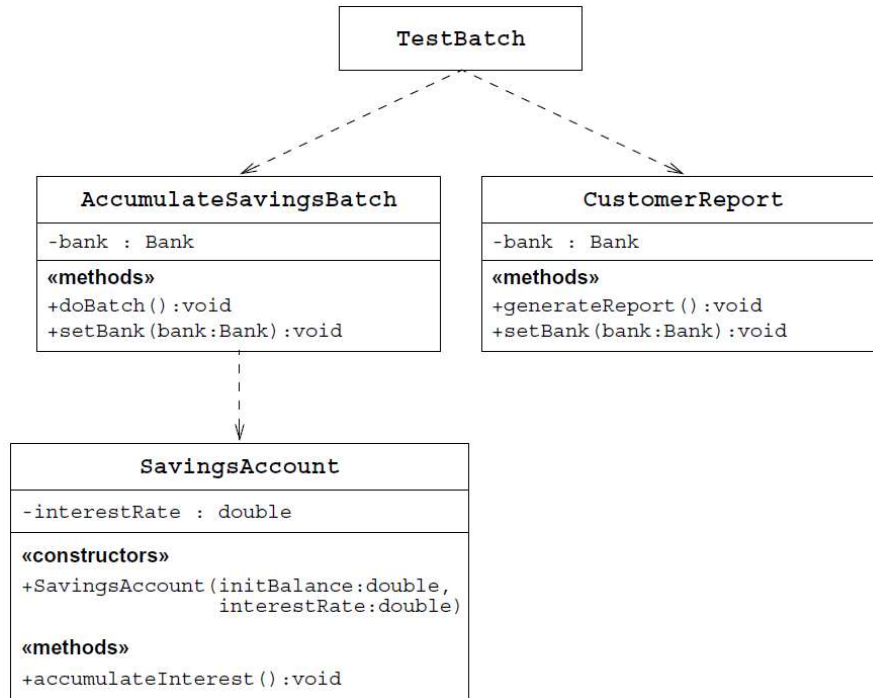


Lab 10: Creating a Batch Program (Advanced)

In this exercise, you create a batch program to accumulate interest for each savings account on a monthly basis.

Figure below shows the dependencies between the class used by the TestBatch program.

Note: This is an advanced exercise. This exercise is optional and should only be attempted if you have completed all of the previous exercises.



A savings account gains interest. The bank permits customers to store money in a savings account and, on a monthly basis, the savings account will accumulate based on the following formula: $\text{balance} = \text{balance} + (\text{balance} * (\text{interestRate} / 12))$.

In this task, you add the `accumulateInterest` method to perform this operation.

1. Create a new Java class named `AccumulateSavingsBatch` in a new package called `com.mybank.batch`. The class must conform to the specification defined in the figure above.
2. Add an instance variable `bank` of the type `Bank`.
3. Add a `setBank` method to set the method parameter to the `bank` instance variable.
4. Add a `doBatch` method using the following hints;

```
for each Customer in the Bank do
    for each Account in the Customer do
        if the Account is a SavingsAccount,
            then call the accumulateInterest method
```

5. Download the TestBatch.java file and add it into the com.mybank.test package.
6. Run the test program. The output should be similar to the following.

ACCUMULATE SAVINGS BATCH EXECUTED

CUSTOMERS REPORT

=====

Customer: Simms, Jane

Savings Account: current balance is 501.25

Checking Account: current balance is 200.0

Customer: Bryant, Owen

Checking Account: current balance is 200.0

Customer: Soley, Tim

Savings Account: current balance is 1509.375

Checking Account: current balance is 200.0

Customer: Soley, Maria

Checking Account: current balance is 200.0

Savings Account: current balance is 150.625

CUSTOMERS REPORT

=====

Customer: Simms, Jane

Savings Account: current balance is 500.0

Checking Account: current balance is 200.0

Customer: Bryant, Owen

Checking Account: current balance is 200.0

Customer: Soley, Tim

Savings Account: current balance is 1500.0

Checking Account: current balance is 200.0

Customer: Soley, Maria

Checking Account: current balance is 200.0

Savings Account: current balance is 150.0