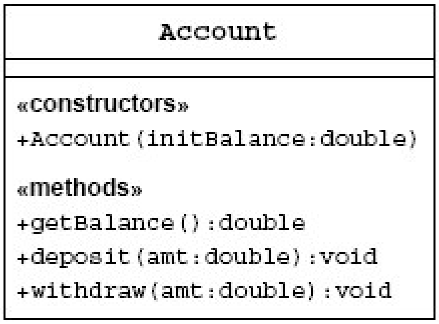
Creating a Test Program

Note – This exercise is the start of the ongoing `Banking` project. Please make sure to complete all exercises related to this project before going on to the next exercise in this project. If you have difficulty completing this exercise, you may obtain solution files from the `solutions` directory. Also, for each subsequent exercise in this project, you may obtain the prior project exercise's solution files from the `projects\StarterFiles` directory.

In this exercise, you create a test harness (a test class) to exercise a pre-built class. Figure 1-1 shows the definition of the `Account` class using a Unified Modeling Language (UML) Class diagram.



Account

«constructors»
+Account(initBalance:double)

«methods»
+getBalance():double
+deposit(amt:double):void
+withdraw(amt:double):void

Figure 1-1 Banking Account Class

Preparation

1. Go to the `projects\BankPrj\` directory.

Task 1 – Creating the `TestAccount` Class

Using a text editor, create the `TestAccount` file. This class acts as a program to create an `Account` object with an initial balance of 100. The test program will then deposit 50 and then withdraw 147. Finally, the test program must print out the balance of the class to the standard output stream.

Perform the following:

2. Declare the `TestAccount` class.

```
public class TestAccount {
  // code here
}
```

3. Add the `main` method:

```
public class TestAccount {
  public static void main(String[] args) {
    // code here
  }
}
```

a. Declare a variable of type `Account` and initialize that variable by creating an instance of the `Account` class with an initial balance of 100.

```
Account acct = new Account(100.0);
```

b. Use the `deposit` method to add 50 to the account.

```
acct.deposit(50.0);
```

c. Use the `withdraw` method to subtract 147 from the account.

```
acct.withdraw(147.0);
```

d. Use the `getBalance` method to retrieve the new account balance and use the `System.out.println` method to display the balance to the standard output stream.

```
System.out.println(“Final account balance is ” + acct.getBalance());
```

Task 2 – Compiling the `TestAccount` Program

4. On the command line, use the `javac` command to compile the test program.

```
javac TestAccount.java
```

Task 3 – Running the `TestAccount` Program

5. On the command line, use the `java` command to run the test program.

```
java TestAccount
```

The output should be:

```
The final balance is 3.0
```