

**CSE 5321 Homework 4.1**  
**Summer 2019**

1) Test case Table Snapshot: -

Test Case Number	Inputs	Exp Output	Basis path
	balance	balance	
1	-\$0.01	-\$500.01	10-11-26
2	\$0.00	-\$150.00	10-13-14-26
3	\$799.99	\$812.38	10-13-16-17-26
4	\$3,499.99	\$3,589.23	10-13-16-19-20-26
5	\$2,49,999.99	\$2,57,887.48	10-13-16-19-22-23-26
6	\$2,50,000.00	\$2,58,225.00	10-13-16-19-22-25-26
7	-\$1,000.00	-\$1,500.00	-
8	\$0.01	\$0.01	-
9	\$800.00	\$820.40	-
10	\$3,500.00	\$3,610.42	-
11	\$3,00,000.00	\$3,09,850.00	-

2)

The screenshot shows the Eclipse IDE interface. The main editor displays the `Problem1.java` file, which contains a `calcBalance` method. The method calculates the balance based on a series of transactions (rate, fee, credit) and returns the final balance. The test results pane on the left shows that all 11 tests passed. The coverage pane at the bottom right shows that the `calcBalance` method is covered 100%.

**Problem1.java**

```
1 public class Problem1 {
2     public double calcBalance(double balance) {
3         int index;
4         double rate[] = {0.0, 0.0, 0.0155, 0.0255, 0.03155, 0.0325};
5         double fee[] = {500.0, 150.0, 0.0, 0.0, 0.0, 0.0};
6         double credit[] = {0.0, 0.0, 0.0, 0.0, 0.0, 100.0};
7         if (balance < 0.0)
8             index = 0;
9         else
10             if (Math.abs(balance - 0.0) < 0.005)
11                 index = 1;
12             else
13                 if (balance < 800.0)
14                     index = 2;
15                 else
16                     if (balance < 3_500.0)
17                         index = 3;
18                     else
19                         if (balance < 250_000.0)
20                             index = 4;
21                         else
22                             index = 5;
23         return balance * (1.0 + rate[index]) - fee[index] + credit[index];
24     }
25 }
26
27
28
```

**Test Results**

Problem1 Test [Runner: JUnit 4] (0.002 s)

- test (0.002 s)
- [0] -0.01, -500.01 (test) (0.002 s)
- [1] 0.0, -150.0 (test) (0.000 s)
- [2] 799.99, 812.38 (test) (0.000 s)
- [3] 3499.99, 3589.23 (test) (0.000 s)
- [4] 249999.99, 257887.48 (test) (0.000 s)
- [5] 250000.0, 258225.0 (test) (0.000 s)
- [6] -1000.0, -1500.0 (test) (0.000 s)
- [7] 0.01, 0.01 (test) (0.000 s)
- [8] 800.0, 820.4 (test) (0.000 s)
- [9] 3500.0, 3610.42 (test) (0.000 s)
- [10] 300000.0, 309850.0 (test) (0.000 s)

**Coverage**

Element	Coverage	Covered Instructions	Missed Instructions	Total Instructions
HomeWork4.1	100.0 %	337	0	337