Object-Oriented and State-Based Testing - Project Report

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Output of Account Class	134
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Output of Account Class	142
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OBJECT-ORIENTED AND STATE-BASED TESTING

GOAL

The goal of this project is to test and *account* class that exhibits state behavior specified by the given source code of the class *account* and EFSM model given below:

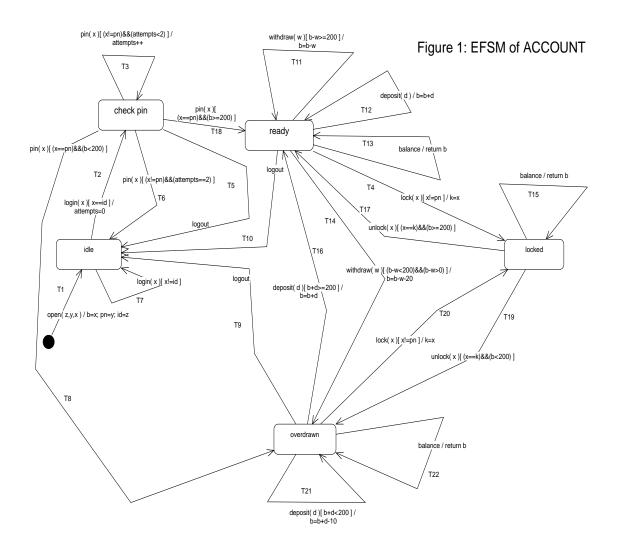


Figure 1: EFSM of Account class

Figure 2: Java Code of Account class

```
1 //************
2 //********* CLASS ACCOUNT ************
5
 6
7 public class account
8 {
9
     private int x0;
     private int x1;
10
     private int x2;
11
     private int x3;
12
13
     private int x4;
     private int x5;
14
15
     private int x6;
     private int x7;
16
17
     private int x8;
18
     private int x9;
19
20 public final int show_balance()
21 {
22
      return x1;
23 } //testing oriented method
24
25 public account()
26 {
27
      x2 = 0;
28
     x4 = -1;
     x6 = 20;
29
30
     x7 = 200;
31
     x9 = 0;
32
      x0 = 3;
33 }
34 public final int open(int z, int y, int x)
      if ((x > 0) \&\& (x4 == -1) \&\& (y > 0) \&\& (z > 0))
36
37
         x1 = x;
38
39
        x3 = y;
40
        x5 = z;
41
         x4 = 0;
42
         return 0;
43
     };
44
     return -1;
45 }
46 public final int pin(int x)
47 {
      if (x4 != 1)
48
49
50
         return -1;
51
52
     if (x == x3)
     {
53
54
         x4 = 2;
55
        return 0;
56
57
      else
```

```
58
      {
59
          x9++;
60
      if (x9 >= x0)
 61
62
       x4 = 0;
63
64
65
       return -1;
66 }
67 public final int logout()
68 {
       if ((x4 == 0) | | (x2 == 1))
69
70
71
          return -1;
 72
       x4 = 0;
73
74
       return 0;
75 }
76 public final int login(int x)
77 {
78
       if (x4 != 0)
79
80
         return -1;
81
      if (x5 == x)
82
83
      {
         x4 = 1;
84
          x9 = 0;
85
86
          return 0;
87
88
       return -1;
89 }
90 public final int balance()
91 {
92
       if (x4 != 2)
93
94
          return -1;
95
96
       return x1;
97 }
98 public final int lock(int x)
99 {
100
       if (x4 != 2)
101
102
          return -1;
103
104
       if (x == x3)
105
106
          return -1;
107
108
       if (x2 == 0)
109
          x2 = 1;
110
111
          x8 = x;
112
         return 0;
113
114
       else
```

```
115
      {
116
           return -1;
117
118 }
119 public final int unlock(int x)
120 {
       if (x4 != 2)
121
122
       {
123
           return -1;
124
       if ((x2 == 1) \&\& (x == x8))
125
126
       {
127
           x2 = 0;
128
       return 0;
129
130
       else
131
       {
132
           return -1;
133
134 }
135 public final int deposit(int d)
136 {
137
       if (x4 != 2)
138
       {
139
           return -1;
140
       if (x2 == 1)
141
142
      {
143
           return -1;
144
       };
145
       if ((x1 + d < x7) && (d>0))
146
147
           x1 = x1 + d - x6;
148
           return 0;
149
       }
150
       else
151
       {
152
           if (d > 0)
153
154
           x1 = x1 + d;
155
           return 0;
156
157
158 return -1;
159 }
160 public final int withdraw(int w)
161 {
162 if (x4 != 2)
163 {
164
       return -1;
165 }
166 if (x2 == 1)
167 {
168
       return -1;
169 };
170 if ((x1 > w) \&\& (w > 0))
171 {
```

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```
172
       if (x1 < x7)
173
174
           return -1:
175
176
       else
177
       {
178
           x1 = x1 - w;
179
       };
180
       if (x1 < x7)
181
182
            x1 = x1 - x6;
183
184
     return 0;
185 }
186 return -1:
187 }
188 }
```

In this project, the goal is to test the provided implementation (source code) of the account class. To test the *account* class, we are supposed to implement a testing environment that should contain a class driver to execute test cases. The following testing methods should be used:

- 1. Model-based testing of the *Account* class: Use the provided EFSM model to test the *account* class. Design test cases for the *account* class so that all 2-transition sequences testing criterion (all transition-pairs) is satisfied based on the provided EFSM, i.e., all 2- transition sequences are exercised during testing.
- **2. Default (ghost) transition testing of the** *Account* **class:** Design a set of additional test cases so each default (ghost) transition in the EFSM is tested.
- **3. Multiple-condition Testing of the** *Account* **Class:** Use multiple-condition testing to design additional test cases to test predicates of conditional statements in operations/methods. Notice that if a predicate contains only a simple condition, the multiple-condition testing is equivalent to the branch testing for this predicate.

In the testing environment, we must introduce "testing-oriented" methods (in the *account* class) that will be used to watch the "internal states" of an *account* object to determine the correctness/incorrectness of the results for the test cases.

DESCRIPTIOIN OF ACCOUNT CLASS

An account requires a minimum balance of 200. If a balance is below a minimum balance in the account, a fee is imposed on each transaction (withdraw, deposit). Before any account transactions can be performed on the account, operation login() must be issued followed by pin() operation. The pin() operation must contain the valid pin # (parameter x) that must be the same as the pin # provided in the open() operation (parameter y). It is allowed a maximum of 3 attempts to "provide" an invalid pin. An account can be locked. When an account is locked, no transaction can be performed on the account (except unlock() and balance() operations). For the simplicity of implementation, all deposit and withdrawal transactions are performed in the whole dollar amounts only (no cents).

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The EFSM model for the *account* class is provided above. Notice that the EFSM model specifies the expected behavior of the account class.

OPERATION SUPPORTED BY THE ACCOUNT CLASS:

The following operations are supported by the *account* class:

Class Account:	
Operation	Description
account()	Constructor
int open(int z, int y, int x)	Sets balance to the value of x , pin number to the value of y , and an account $\#$ to the value of z
int login(int x)	Allows to login to the account, where x is an account #
int logout()	Allows to logout from the account
int pin(int x)	Provides pin # (parameter x)
int deposit (int d)	Deposits amount d to the account
int withdraw (int w)	Withdraws amount w from the account
int balance ()	Returns the value of the account balance
int lock (int x)	Locks an account where x is the lock #
int unlock (int x)	Unlocks an account when x equals to the correct lock #

Unless stated differently, each method (operation) returns 0 when the operation is successfully completed; otherwise, negative value -1 is returned.

TESTING

DRIVER CLASS FOR TESTING

To test the *account* class, a test driver class named "TestDriver" and a few testing-oriented methods in *account* class such as *show_balance()*, *getCurrentState()*, *getLockedStatus()* and *getNumbeOfUnsuccessfulLoginAttemts()*. The file named "TestDriver.java" and updated "account.java" is provided and has been submitted in blackboard. The test cases are performed as below:

1. MODEL-BASED TESTING OF THE ACCOUNT CLASS

INBOUND AND OUTBOUND TRANSITION FOR EACH STATE

To start with model-based testing, firstly we have found the Inbound and Outbound Transition for each state as given below:

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State	Inbound Transition	Outbound Transition
IDLE	T1, T5, T6, T7, T9, T10	T2, T7
CHECK PIN	T2, T3	T3, T5, T6, T8, T18
READY	T11, T12, T13, T16, T17, T18	T4, T10, T11, T12, T13, T14
OVERDRAWN	T8, T14, T19, T21, T22	T9, T16, T20, T21, T22
LOCKED	T4, T15, T20	T15, T17, T19

TRANSITION-PAIR FOR IDLE STATE

Using the above inbound and outbound transition we have found the below transition pair. For each transition-pair which test case in the test suite (TS.txt file) executes and covers that transition-pair is also provided. All the test case given are described later in this report.

Transition-pair		Covered by Test Cose Number
Inbound	Outbound	Covered by Test Case Number
T1	T2	TestCase#2
T1	Т7	TestCase#1
T5	T2	<u>TestCase#2</u>
T5	Т7	<u>TestCase#1</u>
T6	T2	TestCase#2
T6	T7	<u>TestCase#1</u>
T7	T2	TestCase#1
Т7	T7	<u>TestCase#1</u>
Т9	T2	TestCase#2
Т9	T7	<u>TestCase#2</u>
T10	T2	<u>TestCase#3</u>
T10	T7	<u>TestCase#1</u>

TRANSITION-PAIR FOR CHECK PIN STATE

Using the above inbound and outbound transition we have found the below transition pair. For each transition-pair which test case in the test suite (TS.txt file) executes and covers that transition-pair is also provided.

Transition-pair		Covered by Test Cose Number
Inbound	Outbound	Covered by Test Case Number
T2	T3	TestCase#1
T2	T5	TestCase#1
T2	T6	Impossible
T2	T8	TestCase#2
T2	T18	TestCase#1
Т3	T3	TestCase#1

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Transition-pair		Coursed by Took Coop Number
Inbound	Outbound	Covered by Test Case Number
T3	T5	TestCase#2
T3	T6	TestCase#1
Т3	T8	TestCase#2
T3	T18	TestCase#3

TRANSITION-PAIR FOR READY STATE

Using the above inbound and outbound transition we have found the below transition pair. For each transition-pair which test case in the test suite (TS.txt file) executes and covers that transition-pair is also provided.

Transition-pair		Coursed by Test Coast Number
Inbound	Outbound	Covered by Test Case Number
T11	T4	<u>TestCase#3</u>
T11	T10	<u>TestCase#5</u>
T11	T11	<u>TestCase#1</u>
T11	T12	<u>TestCase#3</u>
T11	T13	<u>TestCase#1</u>
T11	T14	<u>TestCase#5</u>
T12	T4	<u>TestCase#1</u>
T12	T10	<u>TestCase#5</u>
T12	T11	<u>TestCase#3</u>
T12	T12	<u>TestCase#1</u>
T12	T13	<u>TestCase#3</u>
T12	T14	<u>TestCase#3</u>
T13	T4	<u>TestCase#3</u>
T13	T10	<u>TestCase#1</u>
T13	T11	<u>TestCase#1</u>
T13	T12	<u>TestCase#1</u>
T13	T13	<u>TestCase#1</u>
T13	T14	<u>TestCase#1</u>
T16	T4	<u>TestCase#5</u>
T16	T10	<u>TestCase#3</u>
T16	T11	<u>TestCase#3</u>
T16	T12	<u>TestCase#3</u>
T16	T13	<u>TestCase#1</u>
T16	T14	<u>TestCase#2</u>
T17	T4	<u>TestCase#1</u>
T17	T10	<u>TestCase#5</u>
T17	T11	<u>TestCase#5</u>
T17	T12	<u>TestCase#3</u>

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Transition-pair		Coursed by Tost Coss North or
Inbound	Outbound	Covered by Test Case Number
T17	T13	TestCase#1
T17	T14	<u>TestCase#3</u>
T18	T4	<u>TestCase#5</u>
T18	T10	<u>TestCase#5</u>
T18	T11	<u>TestCase#5</u>
T18	T12	<u>TestCase#5</u>
T18	T13	TestCase#1
T18	T14	TestCase#3

TRANSITION-PAIR FOR **OVERDRAWN** STATE

Using the above inbound and outbound transition we have found the below transition pair. For each transition-pair which test case in the test suite (TS.txt file) executes and covers that transition-pair is also provided.

Transition-pair		Coursed by Total Cours Number
Inbound	Outbound	Covered by Test Case Number
T8	Т9	<u>TestCase#4</u>
T8	T16	<u>TestCase#3</u>
T8	T20	<u>TestCase#2</u>
T8	T21	<u>TestCase#2</u>
T8	T22	<u>TestCase#2</u>
T14	Т9	<u>TestCase#3</u>
T14	T16	<u>TestCase#3</u>
T14	T20	<u>TestCase#1</u>
T14	T21	<u>TestCase#3</u>
T14	T22	<u>TestCase#2</u>
T19	Т9	<u>TestCase#3</u>
T19	T16	TestCase#3
T19	T20	<u>TestCase#2</u>
T19	T21	<u>TestCase#1</u>
T19	T22	<u>TestCase#1</u>
T21	Т9	<u>TestCase#2</u>
T21	T16	<u>TestCase#2</u>
T21	T20	<u>TestCase#2</u>
T21	T21	<u>TestCase#2</u>
T21	T22	<u>TestCase#1</u>
T22	Т9	TestCase#1
T22	T16	<u>TestCase#1</u>
T22	T20	TestCase#1
T22	T21	TestCase#1

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Transition-pair		Covered by Test Case Number	
Inbound	Outbound	Covered by Test Case Number	
T22	T22	TestCase#1	

TRANSITION-PAIR FOR LOCKED STATE

Using the above inbound and outbound transition we have found the below transition pair. For each transition-pair which test case in the test suite (TS.txt file) executes and covers that transition-pair is also provided.

Transition-pair		Covered by Test Cose Number
Inbound	Outbound	Covered by Test Case Number
T4	T15	<u>TestCase#1</u>
T4	T17	<u>TestCase#1</u>
T4	T19	Impossible
T15	T15	<u>TestCase#1</u>
T15	T17	<u>TestCase#1</u>
T15	T19	TestCase#1
T20	T15	TestCase#1
T20	T17	Impossible
T20	T19	TestCase#1

NON-EXECUTABLE TRANSITION PAIR

TRANSITION PAIR T2-T6 (CHECK PIN STATE)

After T2 transition the system is in CHECK PIN state then attempt = 0, so it is never possible to take T6 transition path just after T2 transition.

TRANSITION PAIR T4-T19 (LOCKED STATE)

After T4 transition the system is in LOCKED state then it is a precondition that balance $b \ge 200$, so it was in READY state before and it is never possible to take T19 transition just after T4, unlocking and moved to OVERDRAWN state.

TRANSITION PAIR T20-T17 (LOCKED STATE)

After T20 transition the system is in LOCKED state then it is a precondition that balance b < 200, so it was in OVERDRAWN state and it is never possible to take T17 transition just after T20, unlocking and moved to READY state.

2. DEFAULT (GHOST) TRANSITION TESTING OF THE ACCOUNT CLASS

The default transitions for each state are given below:

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DEFAULT TRANSITION FOR IDLE STATE

Transition Operation	Covered by Test Case#
open(z, y, x)	<u>TestCase#6</u>
logout()	<u>TestCase#6</u>
pin(x)	<u>TestCase#6</u>
deposit(d)	<u>TestCase#6</u>
withdraw(w)	<u>TestCase#6</u>
balance()	<u>TestCase#6</u>
lock(x)	<u>TestCase#6</u>
unlock(x)	<u>TestCase#6</u>

DEFAULT TRANSITION FOR CHECK PIN STATE

Transition Operation	Covered by Test Case#
open(z, y, x)	<u>TestCase#7</u>
login(x)	<u>TestCase#7</u>
deposit(d)	<u>TestCase#7</u>
withdraw(w)	<u>TestCase#7</u>
balance()	<u>TestCase#7</u>
lock(x)	<u>TestCase#7</u>
unlock(x)	TestCase#7

DEFAULT TRANSITION FOR READY STATE

Transition Operation	Covered by Test Case#
open(z, y, x)	<u>TestCase#8</u>
login(x)	<u>TestCase#8</u>
pin(x)	<u>TestCase#8</u>
withdraw(w)[b-w<=0]	<u>TestCase#8</u>
lock(x)[x==pn]	<u>TestCase#8</u>
unlock(x)	<u>TestCase#8</u>

DEFAULT TRANSITION FOR OVERDRAWN STATE

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Transition Operation	Covered by Test Case#
open(z, y, x)	<u>TestCase#9</u>
login(x)	<u>TestCase#9</u>
pin(x)	<u>TestCase#9</u>
withdraw(w)	<u>TestCase#9</u>
lock(x)[x==pn]	<u>TestCase#9</u>
unlock(x)	<u>TestCase#9</u>

DEFAULT TRANSITION FOR LOCKED STATE

Transition Operation	Covered by Test Case#
open(z, y, x)	<u>TestCase#10</u>
login(x)	<u>TestCase#10</u>
logout()	<u>TestCase#10</u>
pin(x)	<u>TestCase#10</u>
deposit(d)	<u>TestCase#10</u>
withdraw(w)	<u>TestCase#10</u>
lock(x)	<u>TestCase#10</u>
Unlock(x)[x!=k]	<u>TestCase#10</u>

NON-EXECUTABLE DEFAULT TRANSITION

There are no non-executable default transition.

3. MULTIPLE-CONDITION TESTING OF THE ACCOUNT CLASS

For multi-condition testing truth tables for each method are listed below with test case numbers, which covers them.

MULTIPLE-CONDITION TESTING FOR OPEN(Z, Y, X)

TRUTH TABLE 1 FOR OPEN(Z, Y, X)

x>0	x4 == -1	y>0	z>0	Covered by Test Case#
Т	Т	Т	Т	TestCase#1
Т	Т	Т	F	TestCase#11
Т	Т	F	Т	TestCase#11

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x>0	x4 == -1	y>0	z>0	Covered by Test Case#
Т	Т	F	F	TestCase#11
Т	F	Т	Т	TestCase#6
Т	F	Т	F	TestCase#7
Т	F	F	Т	TestCase#8
Т	F	F	F	TestCase#9
F	Т	Т	Т	TestCase#11
F	Т	Т	F	TestCase#11
F	Т	F	Т	TestCase#11
F	Т	F	F	TestCase#11
F	F	Т	Т	TestCase#10
F	F	Т	F	TestCase#11
F	F	F	Т	TestCase#11
F	F	F	F	TestCase#11

MULTIPLE-CONDITION TESTING FOR PIN(X)

TRUTH TABLE 1 FOR PIN(X)

x4!=1	Covered by Test Case#
T	<u>TestCase#6</u>
F	TestCase#1

TRUTH TABLE 2 FOR PIN(X)

x == x3	Covered by Test Case#
Т	<u>TestCase#1</u>
F	TestCase#1

TRUTH TABLE 3 FOR PIN(X)

x9 >= x0	Covered by Test Case#	
Т	<u>TestCase#1</u>	
F	<u>TestCase#1</u>	

MULTIPLE-CONDITION TESTING FOR LOGOUT()

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TRUTH TABLE 1 FOR LOGOUT()

x4 == 0	x2 == 1	Covered by Test Case#
Т	T	Impossible
Т	F	<u>TestCase#6</u>
F	Т	TestCase#10
F	F	<u>TestCase#1</u>

MULTIPLE-CONDITION TESTING FOR LOGIN(X)

TRUTH TABLE 1 FOR LOGIN(X)

x4 != 0	Test#
Т	<u>TestCase#7</u>
F	<u>TestCase#1</u>

TRUTH TABLE 2 FOR LOGIN(X)

x5 == x	Covered by Test Case#
Т	<u>TestCase#1</u>
F	<u>TestCase#1</u>

MULTIPLE-CONDITION TESTING FOR BALANCE()

TRUTH TABLE 1 FOR BALANCE()

x4 != 2	Covered by Test Case#
Т	<u>TestCase#6</u>
F	<u>TestCase#1</u>

MULTIPLE-CONDITION TESTING FOR LOCK(X)

TRUTH TABLE 1 FOR LOCK(X)

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x4 != 2	Covered by Test Case#
Т	<u>TestCase#6</u>
F	TestCase#1

TRUTH TABLE 2 FOR LOCK(X)

x == x3	Covered by Test Case#
Т	<u>TestCase#8</u>
F	<u>TestCase#1</u>

TRUTH TABLE 3 FOR LOCK(X)

x2 == 0	Covered by Test Case#
Т	<u>TestCase#1</u>
F	TestCase#10

MULTIPLE-CONDITION TESTING FOR UNLOCK(X)

TRUTH TABLE 1 FOR UNLOCK(X)

x4 != 2	Covered by Test Case#
Т	<u>TestCase#6</u>
F	<u>TestCase#1</u>

TRUTH TABLE 2 FOR UNLOCK(X)

x2 == 1	x == x8	Covered by Test Case#
Т	Т	<u>TestCase#1</u>
Т	F	TestCase#10
F	Т	<u>TestCase#7</u>
F	F	<u>TestCase#8</u>

MULTIPLE-CONDITION TESTING FOR DEPOSIT(D)

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TRUTH TABLE 1 FOR DEPOSIT(D)

x4 != 2	Covered by Test Case#
Т	<u>TestCase#6</u>
F	<u>TestCase#1</u>

TRUTH TABLE 2 FOR DEPOSIT(D)

x2 == 1	Covered by Test Case#
Т	TestCase#10
F	<u>TestCase#1</u>

TRUTH TABLE 3 FOR DEPOSIT(D)

x1 + d < x7	d > 0	Covered by Test Case#
Т	Т	<u>TestCase#1</u>
Т	F	TestCase#11
F	Т	<u>TestCase#1</u>
F	F	TestCase#11

TRUTH TABLE 4 FOR DEPOSIT(D)

d > 0	Covered by Test Case#
Т	<u>TestCase#1</u>
F	TestCase#11

MULTIPLE-CONDITION TESTING FOR WITHDRAW(W))

TRUTH TABLE 1 FOR WITHDRAW(W)

x4 != 2	Covered by Test Case#
Т	<u>TestCase#6</u>
F	<u>TestCase#1</u>

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TRUTH TABLE 2 FOR WITHDRAW(W)

x2 == 1	Covered by Test Case#
Т	TestCase#10
F	<u>TestCase#1</u>

TRUTH TABLE 3 FOR WITHDRAW(W)

x1 > w	w > 0	Covered by Test Case#
Т	Т	TestCase#1
Т	F	<u>TestCase#8</u>
F	Т	TestCase#11
F	F	TestCase#11

TRUTH TABLE 4 FOR WITHDRAW(W)

x1 < x7	Covered by Test Case#
Т	<u>TestCase#9</u>
F	<u>TestCase#1</u>

TRUTH TABLE 5 FOR WITHDRAW(W)

x1 < x7	Covered by Test Case#
Т	<u>TestCase#1</u>
F	<u>TestCase#1</u>

NON-EXECUTABLE MULTI-CONDITION

In logout() the combination of $(x4 == 0) \rightarrow True$ and $(x2 == 1) \rightarrow False$ is impossible for execution because x4 = 0 when the system is in IDLE state and x2 = 1 when the system is in LOCKED state. The system cannot be present in two states at the same time. The truth table for this can be found in section Truth Table 1 for logout().

TEST SUIT

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The test suit is created and stored in TS.txt. The detailed instruction to execute the test cases are given later in this report in the section Instruction to Execute Test Cases.

Test#1: open 100 123 200 login 150 login 140 login 100 pin 1 pin 2 pin 3 login 150 login 100 logout login 140 login 100 pin 123 balance balance deposit 50 deposit 50 lock 321 balance balance unlock 321 lock 321 unlock 321 balance withdraw 10 withdraw 10 balance withdraw 100 lock 321 balance unlock 321 balance balance deposit 20 balance lock 321 unlock 321 balance deposit 100 balance logout login 140

Test#2: open 100 123 190 login 100 pin 123 balance logout login 135 login 100 pin 123 deposit 10 deposit 10 lock 321 unlock 321 deposit 10 deposit 100 withdraw 100 balance logout login 100 pin 1 logout login 100 pin 2 pin 2 pin 2 login 100 pin 2 pin 123 lock 321 unlock 321 lock 321 unlock 321 deposit 10 logout

Test#3: open 100 123 190 login 100 pin 123 deposit 100 logout login 100 pin 2 pin 123 withdraw 100 deposit 10 lock 321 unlock 321 deposit 100 deposit 10 balance lock 321 unlock 321 withdraw 100 deposit 100 withdraw 10 deposit 10 withdraw 10 lock 321 unlock 321 deposit 10 withdraw 100 logout login 100 pin 123 logout

Test#4: open 100 123 190 login 100 pin 123 logout

Test#5: open 100 123 300 login 100 pin 123 lock 321 unlock 321 withdraw 10 withdraw 100 deposit 100 lock 321 unlock 321 logout login 100 pin 123 deposit 10 logout login 100 pin 123 withdraw 10 logout login 100 pin 123 logout

Test#6: open 100 123 200 open 100 123 200 logout pin 123 deposit 100 withdraw 100 balance lock 321 unlock 321

Test#7: open 100 123 200 login 100 open -100 123 200 login 100 deposit 100 withdraw 100 balance lock 321 unlock 0

Test#8: open 100 123 200 login 100 pin 123 open 100 -123 200 login 100 pin 123 withdraw 0 lock 123 unlock 123

Test#9: open 100 123 190 login 100 pin 123 open -100 -123 200 login 100 pin 123 withdraw 100 lock 123 unlock 321

Test#10: open 100 123 190 login 100 pin 123 lock 321 open 100 123 -200 login 100 logout pin 123 deposit 100 withdraw 100 lock 321 unlock 12

Test#11: open -100 123 200 open 100 -123 200 open -100 -123 200 open 100 123 -200 open -100 123 -200 open 100 -123 -200 open -100 123 -200 open 100 -123 -200 open 100 -123 -200 open 100 -123 -200 open 100 -123 -200 login 100 pin 123 deposit 0 withdraw 190 deposit 0 withdraw 50 withdraw -10

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TEST CASE EXECUTION, TEST RESULTS AND CORRECTNESS

TESTCASE#1

TEST CASE

From TS.txt

Test#1: open 100 123 200 login 150 login 140 login 100 pin 1 pin 2 pin 3 login 150 login 100 logout login 140 login 100 pin 123 balance balance deposit 50 deposit 50 lock 321 balance balance unlock 321 lock 321 unlock 321 balance withdraw 10 withdraw 10 balance withdraw 100 lock 321 balance unlock 321 balance balance deposit 20 balance lock 321 unlock 321 balance deposit 100 balance logout login 140

As method call

Test#1: open(100,123,200), login(150), login(140), login(100), pin(1), pin(2), pin(3), login(150), login(100), logout(), login(140), login(100), pin(123), balance(), balance(), deposit(50), deposit(50), lock(321), balance(), balance(), unlock(321), lock(321), unlock(321), balance(), withdraw(10), withdraw(10), lock(321), balance(), unlock(321), balance(), balance(), deposit(20), balance(), lock(321), unlock(321), balance(), deposit(100), balance(), logout(), login(140)

TRANSITION TRAVERSED

T1, T7, T7, T2, T3, T3, T6, T7, T2, T5, T7, T2, T18, T13, T13, T12, T12, T4, T15, T15, T17, T4, T17, T13, T11, T11, T13, T14, T20, T15, T19, T22, T22, T21, T22, T20, T19, T22, T16, T13, T10, T7

OUTPUT OF ACCOUNT CLASS

CS 589; Fall 2021 PROJECT Sukanta Sharma A2042623

Press Enter key to continue...

Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
0
Your choice is : 0
Class: Account Type: Class Method Method: OPEN
Enter Account#:
100 Enter PIN:
123 Enter initial balance:
200
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
•
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods

- a. SHOW BALANCE b. SHOW STATE

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	SHOW LOCKED STATUS SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q.	Quit Account Driver
Enter your ch	noice:
6	
Your choice i	is : 6
Class: Accour	nt
Type: Class M Method: LOGIN	Method
Enter Account	#:
150	
	The value returned by the method is: -1 (FAILED)
Dross Enton I	voy to continue
Press Enter r	key to continue
Driver for th	ne Account
	OPEN DEPOSIT
2.	WITHDRAW
4.	BALANCE LOCK
6.	UNLOCK LOGIN
	PIN LOGOUT
Testing-Orier	nted Methods
a.	SHOW BALANCE
b.	SHOW STATE SHOW LOCKED STATUS
	SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
n.	Quit Account Driver
7-	X
Enter your ch	noice:
6	
Your choice i	is: 6
Class: Accour	nt
Type: Class M Method: LOGIN	Method
Enter Account	#:

140

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The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 6 Your choice is : 6 Class: Account Type: Class Method Method: LOGIN Enter Account#: 100 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW

- 3. BALANCE 4. LOCK 5. UNLOCK

- 6. LOGIN 7. PIN
- 8. LOGOUT

Testing-Oriented Methods

	a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter you 7	r choice:
Your choi	ce is : 7
Class: Acc	count
Type: Cla:	ss Method
Enter PIN	:
1	The value returned by the method is: -1 (FAILED)
Press Ent	er key to continue
	,
Driver fo	r the Account
	0. OPEN 1. DEPOSIT
	2. WITHDRAW 3. BALANCE 4. LOCK
	5. UNLOCK 6. LOGIN
	7. PIN 8. LOGOUT
Testing-0	riented Methods
	a. SHOW BALANCE
	b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter you	r choice:
7	
Your choi	ce is : 7
Class: Acc Type: Clas Method: Pi	ss Method
Enter PIN	·

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2 The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 7 Your choice is : 7 Class: Account Type: Class Method Method: PIN Enter PIN: 3 The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOCK 6. LOGIN 7. PIN 8. LOGOUT

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Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 6 Class: Account Type: Class Method Method: LOGIN Enter Account#: 150 The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 6

Class: Account Type: Class Method Method: LOGIN

Enter Acc	ount#:
100	
	The value returned by the method is: 0 (SUCCESS)
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Press Ent	er key to continue
Driver fo	r the Account
	0. OPEN
	1. DEPOSIT 2. WITHDRAW
	3. BALANCE
	4. LOCK
	5. UNLOCK 6. LOGIN
	7. PIN
	8. LOGOUT
T+: 0	advantad Makhada
	riented Methods
	a. SHOW BALANCE
	b. SHOW STATE
	c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter you	r choice:
8	
Your choi	ce is · 8
Tour Chor	CC 13 . 0
Class: Ac	count
Type: Cla	ss Method
Method: L	0G0UT
	The value returned by the method is: 0 (SUCCESS)
Press Ent	er key to continue
Driver fo	r the Account
	0. OPEN
	1. DEPOSIT
	2. WITHDRAW 3. BALANCE
	4. LOCK
	5. UNLOCK
	6. LOGIN 7. PIN
	8. LOGOUT

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Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 6 Class: Account Type: Class Method Method: LOGIN Enter Account#: 140 The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 6

Class: Account Type: Class Method Method: LOGIN

Enter Acco	unt#:
100	
	The value returned by the method is: 0 (SUCCESS)
Press Ente	r key to continue
	,
Driver for	the Account
	0. OPEN
	1. DEPOSIT 2. WITHDRAW
	3. BALANCE
	4. LOCK 5. UNLOCK
	6. LOGIN
	7. PIN 8. LOGOUT
lesting-Or	iented Methods
	a. SHOW BALANCE
	b. SHOW STATE c. SHOW LOCKED STATUS
	d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Entor your	chaica
Enter your	choice.
7	
Your choic	e is : 7
Class: Acc	
Type: Clas Method: PI	
Entor DIN.	
Enter PIN:	
123	The value anti-mand to the state of concession
	The value returned by the method is: 0 (SUCCESS)
Press Ente	r key to continue
Driver for	the Account
	0. OPEN
	1. DEPOSIT
	2. WITHDRAW 3. BALANCE
	4. LOCK
	5. UNLOCK 6. LOGIN

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	PIN LOGOUT
Testing-Orie	nted Methods
b. c.	SHOW BALANCE SHOW STATE SHOW LOCKED STATUS SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q.	Quit Account Driver
Enter your c	noice:
3	
Your choice	is: 3
Class: Accou	nt
Type: Class Method: BALA	Method
	The value returned by the method is: Balance = 200 (SUCCESS)
Press Enter	key to continue
Tress Effect	to continuer?
D	A. A
Driver for t	ne Account
	OPEN DEPOSIT
2.	WITHDRAW BALANCE
4.	LOCK UNLOCK
6.	LOGIN
	PIN LOGOUT
Testing-Orie	nted Methods
b. c.	SHOW BALANCE SHOW STATE SHOW LOCKED STATUS SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q.	Quit Account Driver
Enter your c	noice:
3	
Your choice	is : 3

Class: Account Type: Class Method Method: BALANCE

The value returned by the method is: Balance = 200) (SUCCESS
Press Enter key to continue	
Tress Enter key to contenuer?	
Driver for the Account	
0. OPEN	
1. DEPOSIT 2. WITHDRAW	
3. BALANCE 4. LOCK	
5. UNLOCK 6. LOGIN	
7. PIN 8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE	
b. SHOW STATE c. SHOW LOCKED STATUS	
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
1	
Your choice is : 1	
Class: Account	
Type: Class Method Method: DEPOSIT	
Enter Deposit Amount:	
50	
The value returned by the method is: 0 (SUCCESS)	
Press Enter key to continue	
Driver for the Account	
0. OPEN	
 DEPOSIT WITHDRAW 	
3. BALANCE 4. LOCK	
5. UNLOCK 6. LOGIN	
7. PIN	
8. LOGOUT	

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Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 1 Class: Account Type: Class Method Method: DEPOSIT Enter Deposit Amount: The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 4

Class: Account Type: Class Method Method: LOCK

Enter Lock#:	
321	
	The value returned by the method is: 0 (SUCCESS)
Press Enter A	ey to continue
Driver for th	Account
	——————————————————————————————————————
	0PEN
	DEPOSIT WITHDRAW
	BALANCE LOCK
5.	UNLOCK
	LOGIN PIN
	LOGOUT
Testing-Orier	rted Methods
	SHOW BALANCE
	SHOW STATE
d.	SHOW LOCKED STATUS SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q.	Quit Account Driver
Enter your ch	oice:
3	
Your choice i	c · 3
Tour choice i	
Class: Accour Type: Class M	
Method: BALAN	
	The value returned by the method is: Balance = 300 (SUCCESS)
Press Enter F	ey to continue
Driver for th	e Account
0.	OPEN .
1.	DEPOSIT
	WITHDRAW BALANCE
4.	LOCK
	UNLOCK LOGIN
7.	PIN
8.	LOGOUT

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Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
3	
Your choice is : 3	
Class: Account Type: Class Method Method: BALANCE	
The value returned by the method is: Balance = 300	(SUCCESS
Press Enter key to continue	
Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
5	
Your choice is : 5	
Class: Account Type: Class Method Method: UNLOCK	

Enter Lock#:

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321 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is : 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOCK 6. LOGIN 7. PIN 8. LOGOUT

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Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 5 Class: Account Type: Class Method Method: UNLOCK Enter Lock#: 321 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is: 3

Class: Account Type: Class Method Method: BALANCE

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The value returned by the method is: Balance = 300 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 2 Your choice is : 2 Class: Account Type: Class Method Method: WITHDRAW Enter Withdraw Amount: 10 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT

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Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 2 Class: Account Type: Class Method Method: WITHDRAW Enter Withdraw Amount: The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is: 3

Class: Account Type: Class Method Method: BALANCE

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The value returned by the method is: Balance = 280 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 2 Your choice is : 2 Class: Account Type: Class Method Method: WITHDRAW Enter Withdraw Amount: 100 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT

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Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 3

Class: Account Type: Class Method Method: BALANCE

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The value returned by the method is: Balance = 160 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 5 Your choice is : 5 Class: Account Type: Class Method Method: UNLOCK Enter Lock#: 321 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOCK 6. LOGIN 7. PIN 8. LOGOUT

Testing-Oriented Methods	
a. SHOW BALANCE	
b. SHOW STATE c. SHOW LOCKED STATUS	
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
3	
Your choice is : 3	
Class: Account Type: Class Method Method: BALANCE	
The value returned by the method is: Balance = 160	(SUCCESS)
Press Enter key to continue	
•	
Driver for the Account	
0. OPEN	
1. DEPOSIT 2. WITHDRAW	
3. BALANCE 4. LOCK	
5. UNLOCK 6. LOGIN	
7. PIN 8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE	
c. SHOW LOCKED STATUS	
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
3	
Your choice is : 3	
Class: Account	
Type: Class Method Method: BALANCE	

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(SUCCESS)

	The value returned by the method is: Balance = 160
Press Ente	er key to continue
Driver for	r the Account
	0. OPEN
	1. DEPOSIT 2. WITHDRAW
	3. BALANCE 4. LOCK
	5. UNLOCK 6. LOGIN
	7. PIN 8. LOGOUT
Testing-0	riented Methods
	a. SHOW BALANCE
	b. SHOW STATE c. SHOW LOCKED STATUS
	d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter you	r choice:
1	
Your choic	ce is: 1
Class: Acc	count
Type: Clas Method: Di	
	osit Amount:
20	
	The value returned by the method is: 0 (SUCCESS)
Press Ente	er key to continue
Daives for	s the Account
Triner 10	r the Account
	0. OPEN 1. DEPOSIT
	2. WITHDRAW
	3. BALANCE 4. LOCK
	5. UNLOCK 6. LOGIN
	7. PIN 8. 1 060UT

Testing-Oriented Methods

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a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
3	
Your choice is : 3	
Class: Account Type: Class Method Method: BALANCE	
The value returned by the method is: Balance = 160	(SUCCESS)
Press Enter key to continue	
Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
4	
Your choice is : 4	
Class: Account Type: Class Method	
Method: LOCK	

321

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The value returned by the method is: 0 (SUCCESS)

,
Press Enter key to continue
Driver for the Account
·
0. OPEN 1. DEPOSIT
2. WITHDRAW 3. BALANCE
4. LOCK
5. UNLOCK 6. LOGIN
7. PIN 8. LOGOUT
0. 200001
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATE c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
5
Your choice is : 5
Tour choice is . 5
Class: Account
Type: Class Method Method: UNLOCK
Enter Lock#:
321
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
•
Driver for the Account
0. OPEN
 DEPOSIT WITHDRAW
3. BALANCE 4. LOCK
5. UNLOCK
6. LOGIN 7. PIN
8. LOGOUT
Testing-Oriented Methods

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	a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter you	r choice:
3	
Your choi	ce is : 3
Class: Acc Type: Clas Method: B	ss Method
	T
	The value returned by the method is: Balance = 160 (SUCCESS)
Press Ente	er key to continue
Driver fo	r the Account
	0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-0	riented Methods
	a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter you	r choice:
1	
Your choi	ce is : 1
Class: Acc Type: Clas Method: D	ss Method
Enter Dep	osit Amount:

100

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The value returned by the method is: 0 (SUCCESS)

Press Enter key to continue	
Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
3	
Your choice is : 3	
Class: Account Type: Class Method Method: BALANCE	
The value returned by the method is: Balance = 260 (SU	ICCECC)
	CCL33)
Press Enter key to continue	
Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT	
Testing-Oriented Methods	

- a. SHOW BALANCE b. SHOW STATE

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c. SHOW LOCKED STATUSd. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
8
Your choice is : 8
Class: Account Type: Class Method
Method: LOGOUT
The value returned by the method is: 0 (SUCCESS)
,
Press Enter key to continue
Driver for the Account
0. OPEN
1. DEPOSIT
2. WITHDRAW 3. BALANCE
4. LOCK
5. UNLOCK 6. LOGIN
7. PIN 8. LOGOUT
8. LUGUUT
Testing-Oriented Methods
a. SHOW BALANCE
<pre>b. SHOW STATE c. SHOW LOCKED STATUS</pre>
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Fator was above.
Enter your choice:
6
Your choice is : 6
Class: Account
Type: Class Method Method: LOGIN
Enter Account#:
140

The value returned by the method is: -1 (FAILED)

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Press	Enter	key	to	continue	
-------	-------	-----	----	----------	--

Driver for the Account

- 0. OPEN
 1. DEPOSIT
 2. WITHDRAW
 3. BALANCE
 4. LOCK
 5. UNLOCK
 6. LOGIN
 7. PIN
 8. LOGOUT

Testing-Oriented Methods

- - a. SHOW BALANCE
 b. SHOW STATE
 c. SHOW LOCKED STATUS
 d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
 - q. Quit Account Driver

Enter your choice:

q

Your choice is : q Quitting Account Driver...

THANK YOU!!!

CORRECTNESS

		Ex	Expected Result			Produced Result			
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt		
OPEN 100 123 200	T1	IDLE	200	0	IDLE	200	0		
LOGIN 150	T7	IDLE	200	0	IDLE	200	0		
LOGIN 140	Т7	IDLE	200	0	IDLE	200	0		
LOGIN 100	T2	CHECK PIN	200	0	CHECK PIN	200	0		

		Б	pected	Result	Produced Result			
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt	
PIN 1	Т3	CHECK PIN	200	1	CHECK PIN	200	1	
PIN 2	T3	CHECK PIN	200	2	CHECK PIN	200	2	
PIN 3	T6	IDLE	200	2	IDLE	200	8	
LOGIN 150	T7	IDLE	200	2	IDLE	200	3	
LOGIN 100	T2	CHECK PIN	200	0	CHECK PIN	200	0	
LOGOUT	T5	IDLE	200	0	IDLE	200	0	
LOGIN 140	T7	IDLE	200	0	IDLE	200	0	
LOGIN 100	T2	CHECK PIN	200	0	CHECK PIN	200	0	
PIN 123	T18	READY	200	0	READY	200	0	
BALANCE	T13	READY	200	0	READY	200	0	
BALANCE	T13	READY	200	0	READY	200	0	
DEPOSIT 50	T12	READY	250	0	READY	250	0	
DEPOSIT 50	T12	READY	300	0	READY	300	0	
LOCK 321	T4	LOCKED	300	0	LOCKED	300	0	
BALANCE	T15	LOCKED	300	0	LOCKED	300	0	
BALANCE	T15	LOCKED	300	0	LOCKED	300	0	
UNLOCK 321	T17	READY	300	0	READY	300	0	
LOCK 321	T4	LOCKED	300	0	LOCKED	300	0	
UNLOCK 321	T17	READY	300	0	READY	300	0	
BALANCE	T13	READY	300	0	READY	300	0	

		Ех	pected	Result	Pr	oduced	Result
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
WITHDRA W 10	T11	READY	290	0	READY	290	0
WITHDRA W 10	T11	READY	280	0	READY	280	0
BALANCE	T13	READY	280	0	READY	280	0
WITHDRA W 100	T14	OVERDRAWN	160	0	OVERDRAWN	160	0
LOCK 321	T20	LOCKED	160	0	LOCKED	160	0
BALANCE	T15	LOCKED	160	0	LOCKED	160	0
UNLOCK 321	T19	OVERDRAWN	160	0	OVERDRAWN	160	0
BALANCE	T22	OVERDRAWN	160	0	OVERDRAWN	160	0
BALANCE	T22	OVERDRAWN	160	0	OVERDRAWN	160	0
DEPOSIT 20	T21	OVERDRAWN	<mark>170</mark>	O	OVERDRAWN	<mark>160</mark>	d
BALANCE	T22	OVERDRAWN	170	0	OVERDRAWN	160	0
LOCK 321	T20	LOCKED	170	0	LOCKED	160	0
UNLOCK 321	T19	OVERDRAWN	170	0	OVERDRAWN	160	0
BALANCE	T22	OVERDRAWN	170	0	OVERDRAWN	160	0
DEPOSIT 100	T16	READY	270	0	READY	260	0
BALANCE	T13	READY	270	0	READY	260	0
LOGOUT	T10	IDLE	270	0	IDLE	260	0
LOGIN 140	T7	IDLE	270	0	IDLE	260	0

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As from the above table we can see that expected results are not matched with produced result. Hence the test case is **FAILED**. The contradicting operations are highlighted in **RED** color in the above table. This test case is also mentioned later in this report in the section <u>List of Failed Test Cases</u>

TESTCASE#2

TEST CASE

From TS.txt

Test#2: open 100 123 190 login 100 pin 123 balance logout login 135 login 100 pin 123 deposit 10 deposit 10 lock 321 unlock 321 deposit 10 deposit 100 withdraw 100 balance logout login 100 pin 1 logout login 100 pin 2 pin 2 pin 2 login 100 pin 2 pin 123 lock 321 unlock 321 lock 321 unlock 321 deposit 10 logout

As method call

Test#2: open(100,123,190), login(100), pin(123), balance(), logout(), login(135), login(100), pin(123), deposit(10), deposit(10), lock(321), unlock(321), deposit(10), deposit(100), withdraw(100), balance(), logout(), login(100), pin(1), logout(), login(100), pin(2), pin(2), pin(2), login(100), pin(2), pin(123), lock(321), unlock(321), lock(321), unlock(321), deposit(10), logout()

TRANSITION TRAVERSED

T1, T2, T8, T22, T9, T7, T2, T8, T21, T21, T20, T19, T21, T16, T14, T22, T9, T2, T3, T5, T2, T3, T3, T6, T2, T3, T8, T20, T19, T20, T19, T21, T9

OUTPUT OF ACCOUNT CLASS

CS 589; Fall 2021 PROJECT Sukanta Sharma A2042623

Press Enter key to continue	
Driver for the Account	

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2.	DEPOSIT WITHDRAW BALANCE
4.	LOCK
	UNLOCK LOGIN
7. 8.	PIN LOGOUT
Testing-Orie	nted Methods
	SHOW BALANCE SHOW STATE
С.	SHOW LOCKED STATUS SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q.	Quit Account Driver
Enter your ch	noice:
0	
Your choice	is : 0
Class: Accour Type: Class Method: OPEN	
Enter Account	 t#:
100 Enter PIN:	
123 Enter initia	l balance:
190	
	The value returned by the method is: 0 (SUCCESS)
Press Enter	key to continue
Driver for th	ne Account
0.	OPEN
1.	DEPOSIT WITHDRAW
3.	BALANCE
5.	LOCK UNLOCK
	LOGIN PIN
8.	LOGOUT
Testing-Orie	nted Methods
	SHOW BALANCE
С.	SHOW STATE SHOW LOCKED STATUS
d.	SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS

q. Quit Account Driver

0. OPEN

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Enter your choice:
6
Your choice is : 6
Class: Account Type: Class Method Method: LOGIN
Enter Account#:
100
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT
2. WITHDRAW 3. BALANCE
4. LOCK 5. UNLOCK
6. LOGIN 7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATE c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
7
Your choice is : 7
Class: Account Type: Class Method Method: PIN
Enter PIN:
123
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue

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Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 3 Class: Account Type: Class Method Method: BALANCE The value returned by the method is: Balance = 190 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE d. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS

q. Quit Account Driver

Enter your choice:
8
Your choice is : 8
Class: Account Type: Class Method Method: LOGOUT
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Fress Litter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
6
Your choice is : 6
Class: Account Type: Class Method Method: LOGIN
Enter Account#:
135
The value returned by the method is: -1 (FAILED)
Press Enter key to continue

Sukanta Sharma (A20472623)

Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
6	
Your choice is : 6	
Class: Account Type: Class Method Method: LOGIN	
Enter Account#:	
100	
The value returned by the method is: 0 (SUCCESS)	
Press Enter key to continue	
Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	

q. Quit Account Driver

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Enter your choice:
7
Your choice is : 7
Class: Account Type: Class Method Method: PIN
Enter PIN:
123
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
These Enter key to contendent
Driver for the Account
·
0. OPEN 1. DEPOSIT
2. WITHDRAW 3. BALANCE
4. LOCK
5. UNLOCK 6. LOGIN
7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
1
Your choice is : 1
Total choice 15 i I
Class: Account Type: Class Method Method: DEPOSIT
Enter Deposit Amount:
10
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue

Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
1	
Your choice is : 1	
Class: Account Type: Class Method Method: DEPOSIT	
Enter Deposit Amount:	
10	
The value returned by the method is: 0 (SUCCESS)	
Press Enter key to continue Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	

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q. Quit Account Driver
Enter your choice:
4
Your choice is : 4
Class: Account Type: Class Method Method: LOCK
Enter Lock#:
321
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
5
Your choice is : 5
Class: Account Type: Class Method Method: UNLOCK
Enter Lock#:
321

The value returned by the method is: 0 (SUCCESS)

Press Enter key to continue	
Driver for the Account	
0. OPEN	
1. DEPOSIT 2. WITHDRAW	
3. BALANCE 4. LOCK	
5. UNLOCK	
6. LOGIN 7. PIN	
8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE	
b. SHOW STATEc. SHOW LOCKED STATUS	
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
1	
Your choice is : 1	
four choice is : I	
Class: Account	
Type: Class Method Method: DEPOSIT	
Enter Denesit Amounts	
Enter Deposit Amount:	
10	
The value returned by the method is: 0 (SUCCESS)	
Press Enter key to continue	
Driver for the Account	
0. OPEN	
1. DEPOSIT 2. WITHDRAW	
3. BALANCE	
4. LOCK 5. UNLOCK	
6. LOGIN 7. PIN	
8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE	
b. SHOW STATE	

Sukanta Sharma (A20472623)

c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
1
Your choice is : 1
Class: Account Type: Class Method Method: DEPOSIT
Enter Deposit Amount:
100
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
2
Your choice is : 2
Class: Account Type: Class Method
Method: WITHDRAW
Enter Withdraw Amount:

100

Sukanta Sharma (A20472623)

The value returned by the method is: 0 (SUCCESS)

Press Enter	key to continue	
Driver for t	the Account	
	. OPEN	
2.	. DEPOSIT . WITHDRAW	
4.	BALANCE LOCK	
6.	. UNLOCK . LOGIN	
	. PIN . LOGOUT	
Testing-Orie	ented Methods	
a	. SHOW BALANCE	
b.	SHOW STATE SHOW LOCKED STATUS	
	SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q.	. Quit Account Driver	
Enter your o	choice:	
3		
Your choice	is: 3	
Class: Accou	Method	
Method: BALA	ANCE	
	The value returned by the method is: Balance = 220 (S	SUCCESS)
	the returned by the method 157 Security (1	,000233,
Press Enter	key to continue	
Driver for t	the Account	
	. OPEN . DEPOSIT	
2.	. WITHDRAW	
4.	BALANCE LOCK	
6.	. UNLOCK . LOGIN	
	. PIN . LOGOUT	
Testing-Orie	ented Methods	

a. SHOW BALANCE b. SHOW STATE

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	c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter your	choice:
8	
Your choic	ce is : 8
Class: Acc	count
Type: Clas Method: LC	
	The value returned by the method is: 0 (SUCCESS)
Press Ente	er key to continue
Driver for	the Account
	0. OPEN
	1. DEPOSIT
	2. WITHDRAW 3. BALANCE
	4. LOCK 5. UNLOCK
	6. LOGIN 7. PIN
	8. LOGOUT
Tosting Or	signated Motheda
	riented Methods
	a. SHOW BALANCE
	b. SHOW STATE c. SHOW LOCKED STATUS
	d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter your	choice:
6	
Your choic	ce is : 6
Class: Acc	count
Type: Clas	ss Method
Method: LC	JUSTN
Enter Acco	ount#:
100	

The value returned by the method is: 0 (SUCCESS)

Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice: 7 Your choice is : 7
Class: Account Type: Class Method Method: PIN
Enter PIN:
1 $ \label{thm:continuous} $
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods

- a. SHOW BALANCE b. SHOW STATE

Sukanta Sharma (A20472623)

c. SHOW LOCKED STATUSd. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
8
Your choice is : 8
Class: Account Type: Class Method
Method: LOGOUT
The value returned by the method is: 0 (SUCCESS)
the ratae retarned by the method 151 0 (5555255)
Press Enter key to continue
Driver for the Account
0. OPEN
1. DEPOSIT
2. WITHDRAW 3. BALANCE
4. LOCK
5. UNLOCK 6. LOGIN
7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUSd. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
6
Your choice is : 6
Class: Account
Type: Class Method Method: LOGIN
···········
Enter Account#:
100

The value returned by the method is: 0 (SUCCESS)

Sukanta Sharma (A20472623)

Press Enter key to continue
Driver for the Account
0. OPEN
1. DEPOSIT 2. WITHDRAW
3. BALANCE 4. LOCK
5. UNLOCK 6. LOGIN
7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATEc. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
7
Your choice is : 7
Classi Assount
Class: Account Type: Class Method Method: PIN
Enter PIN:
2
The value returned by the method is: -1 (FAILED)
,
Press Enter key to continue
Define for the Assesse
Driver for the Account
0. OPEN
1. DEPOSIT 2. WITHDRAW
3. BALANCE 4. LOCK
5. UNLOCK 6. LOGIN
7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATE

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c. SHOW LOCKED STATUSd. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
7
Your choice is : 7
Class: Account
Type: Class Method Method: PIN
Enter PIN:
2
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
,
Driver for the Account
0. OPEN1. DEPOSIT
2. WITHDRAW
3. BALANCE 4. LOCK
5. UNLOCK 6. LOGIN
7. PIN 8. LOGOUT
0. E00001
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE
 c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
7
Your choice is : 7
Class: Account
Type: Class Method Method: PIN
Enter PIN:

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The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 6 Your choice is : 6 Class: Account Type: Class Method Method: LOGIN Enter Account#: 100 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK

Testing-Oriented Methods

6. LOGIN 7. PIN 8. LOGOUT

Sukanta Sharma (A20472623)

	a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter your	r choice:
Your choic	ce is : 7
Class: Acc	count
Type: Clas	ss Method
Enter PIN	
2	The value returned by the method is: -1 (FAILED)
Press Ente	er key to continue
Driver for	r the Account
	0. OPEN 1. DEPOSIT
	2. WITHDRAW 3. BALANCE 4. LOCK
	5. UNLOCK 6. LOGIN
	7. PIN 8. LOGOUT
Testing-0	riented Methods
	a. SHOW BALANCE
	b. SHOW STATE c. SHOW LOCKED STATUS
	d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter you	r choice:
7	
Your choic	ce is : 7
Class: Acc Type: Clas Method: Pi	ss Method
Enter PIN:	:

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123 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is : 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOCK

- 6. LOGIN 7. PIN 8. LOGOUT

Sukanta Sharma (A20472623)

Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 5 Class: Account Type: Class Method Method: UNLOCK Enter Lock#: 321 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 4

Class: Account Type: Class Method Method: LOCK

Enter Lock#	:
321	
	The value returned by the method is: 0 (SUCCESS)
Dross Enton	kay ta cantinya
Press Enter	key to continue
Driver for	the Account
	ODEN
1	. OPEN . DEPOSIT
	. WITHDRAW . BALANCE
4	. LOCK
	. UNLOCK . LOGIN
7	. PIN
8	. LOGOUT
Testing-Ori	ented Methods
a	. SHOW BALANCE
b	. SHOW STATE
	. SHOW LOCKED STATUS . SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q	. Quit Account Driver
Enter your	choice:
5	
Your choice	ic • 5
Tour choice	13.3
Class: Acco	
Method: UNL	
Enter Lock#	:
321	
	The value returned by the method is: 0 (SUCCESS)
Press Enter	key to continue
	· · · · · · · · · · · · · · · · · · ·
Driver for	the Account
0	. OPEN
1	. DEPOSIT
	. WITHDRAW . BALANCE
4	. LOCK . UNLOCK
	. UNLUCK . LOGIN

7. PIN 8. LOGOUT	
Testing-Oriented Method	ds
a. SHOW BALAN b. SHOW STATE c. SHOW LOCKE d. SHOW NUMBE	
q. Quit Accou	unt Driver
Enter your choice:	
1	
Your choice is : 1	
Class: Account	
Type: Class Method Method: DEPOSIT	
Enter Deposit Amount:	
10	
The	e value returned by the method is: 0 (SUCCESS)
Press Enter key to cont	tinue
Tress Effect Rey to com	.Inuc
Driver for the Account	
0. OPEN 1. DEPOSIT	
WITHDRAW	
3. BALANCE 4. LOCK	
5. UNLOCK 6. LOGIN	
7. PIN 8. LOGOUT	
Testing-Oriented Method	is
a. SHOW BALAN	
b. SHOW STATE c. SHOW LOCKE	ED STATUS
d. SHOW NUMBE	ER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Accou	unt Driver
Enter your choice:	
8	
Your choice is : 8	

Sukanta Sharma (A20472623)

Class: Accou	int
Type: Class	Method
Method: LOGO	UT

The value returned by the method is: 0 (SUCCESS)

Press Enter key to continue...

Driver for the Account

- 0. OPEN
 1. DEPOSIT
 2. WITHDRAW
 3. BALANCE
 4. LOCK
 5. UNLOCK
 6. LOGIN
 7. PIN
 8. LOGOUT

Testing-Oriented Methods

- a. SHOW BALANCE
 b. SHOW STATE
 c. SHOW LOCKED STATUS
 d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
- q. Quit Account Driver

Enter your choice:

q

Your choice is : q Quitting Account Driver...

THANK YOU!!!

CORRECTNESS

		Ex	Expected Result			Produced Result		
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt	
OPEN 100 123 190	T1	IDLE	190	0	IDLE	190	0	
LOGIN 100	T2	CHECK PIN	190	0	CHECK PIN	190	0	

		Б	pected	Result	Produced Result		
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
PIN 123	Т8	OVERDRAWN	190	0	OVERDRAWN	190	0
BALANCE	T22	OVERDRAWN	190	0	OVERDRAWN	190	0
LOGOUT	Т9	IDLE	190	0	IDLE	190	0
LOGIN 135	Т7	IDLE	190	0	IDLE	190	0
LOGIN 100	T2	CHECK PIN	190	0	CHECK PIN	190	0
PIN 123	T8	OVERDRAWN	190	0	OVERDRAWN	190	0
DEPOSIT 10	T21	OVERDRAWN	<mark>190</mark>	0	READY	200	ū
DEPOSIT 10	T21	OVERDRAWN	<mark>190</mark>	Ō	READY	210	ū
LOCK 321	T20	LOCKED	190	0	LOCKED	210	0
UNLOCK 321	T19	OVERDRAWN	190	0	READY	210	0
DEPOSIT 10	T21	OVERDRAWN	190	0	READY	220	0
DEPOSIT 100	T16	READY	290	0	READY	320	0
WITHDRA W 100	T14	OVERDRAWN	170	0	READY	220	0
BALANCE	T22	OVERDRAWN	170	0	READY	220	0
LOGOUT	Т9	IDLE	170	0	IDLE	220	0
LOGIN 100	T2	CHECK PIN	170	0	CHECK PIN	220	0
PIN 1	Т3	CHECK PIN	170	0	CHECK PIN	220	1
LOGOUT	T5	IDLE	170	0	IDLE	220	1
LOGIN 100	T2	CHECK PIN	170	0	CHECK PIN	220	0

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		Б	pected	Result	P	roduced	Result
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
PIN 2	Т3	CHECK PIN	170	1	CHECK PIN	220	1
PIN 2	Т3	CHECK PIN	170	2	CHECK PIN	220	2
PIN 2	T6	IDLE	<mark>170</mark>	2	IDLE	<mark>220</mark>	3
LOGIN 100	T2	CHECK PIN	170	0	CHECK PIN	220	0
PIN 2	Т3	CHECK PIN	170	1	CHECK PIN	220	1
PIN 123	Т8	OVERDRAWN	170	1	READY	220	1
LOCK 321	T20	LOCKED	170	1	LOCKED	220	1
UNLOCK 321	T19	OVERDRAWN	170	1	READY	220	1
LOCK 321	T20	LOCKED	170	1	LOCKED	220	1
UNLOCK 321	T19	OVERDRAWN	170	1	READY	220	1
DEPOSIT 10	T21	OVERDRAWN	<mark>170</mark>	1	READY	<mark>230</mark>	1
LOGOUT	Т9	IDLE	170	1	IDLE	230	1

As from the above table we can see that expected results are not matched with produced result. Hence the test case is **FAILED**. The contradicting operations are highlighted in **RED** color in the above table. This test case is also mentioned later in this report in the section <u>List of Failed Test Cases</u>

TESTCASE#3

TEST CASE

From TS.txt

Test#3: open 100 123 190 login 100 pin 123 deposit 100 logout login 100 pin 2 pin 123 withdraw 100 deposit 10 lock 321 unlock 321 deposit 100 deposit 10 balance lock 321 unlock 321 withdraw 100 deposit 100 withdraw 10 lock 321 unlock 321 deposit 10 withdraw 100 logout login 100 pin 123 logout

Sukanta Sharma (A20472623)

As method call

Test#3: open(100,123,190), login(100), pin(123), deposit(100), logout(), login(100), pin(2). pin(123), withdraw(100), deposit(10), lock(321), unlock(321), deposit(100), deposit(10), balance(), lock(321), unlock(321), withdraw(100), deposit(100), withdraw(10), deposit(10), withdraw(10), lock(321), unlock(321), deposit(10), withdraw(100), logout(), login(100), pin(123), logout()

TRANSITION TRAVERSED

T1, T2, T8, T16, T10, T2, T3, T18, T14, T21, T20, T19, T16, T12, T13, T4, T17, T14, T16, T11, T12, T11, T4, T17, T12, T14, T9, T2, T8, T9

OUTPUT OF ACCOUNT CLASS

CS 589; Fall 2021 PROJECT Sukanta Sharma A2042623

Press Enter key to continue...

Driver for the Account

0. OPEN

1. DEPOSIT 2. WITHDRAW

3. BALANCE

4. LOCK 5. UNLOCK

6. LOGIN 7. PIN 8. LOGOUT

Testing-Oriented Methods

a. SHOW BALANCE b. SHOW STATE

c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS

q. Quit Account Driver

Enter your choice:

Your choice is: 0

Class: Account Type: Class Method Method: OPEN
Enter Account#:
100 Enter PIN:
123 Enter initial balance:
190
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
6
Your choice is : 6
Class: Account Type: Class Method Method: LOGIN
Enter Account#:
100
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue

Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
7
Your choice is : 7
Class: Account Type: Class Method Method: PIN
Enter PIN:
123
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS

Sukanta Sharma (A20472623)

q. Quit Account Driver
Enter your choice:
1
Your choice is : 1
Class: Account Type: Class Method Method: DEPOSIT
Enter Deposit Amount:
100
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Assemb
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCEb. SHOW STATEc. SHOW LOCKED STATUSd. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
8
Your choice is : 8
Class: Account Type: Class Method Method: LOGOUT
The value returned by the method is: 0 (SUCCESS)

Press Enter key to continue...

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Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
6
Your choice is : 6
Class: Account Type: Class Method Method: LOGIN
Enter Account#:
100
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS

Sukanta Sharma (A20472623)

q. Quit Account Driver
Enter your choice:
7
Your choice is : 7
Class: Account Type: Class Method Method: PIN
Enter PIN:
2
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
7
Your choice is : 7
Class: Account Type: Class Method Method: PIN
Enter PIN:
123

The value returned by the method is: 0 (SUCCESS)

Sukanta Sharma (A20472623)

Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice: 2 Your choice is : 2
Class: Account Type: Class Method Method: WITHDRAW
Enter Withdraw Amount:
100 $ \label{eq:The value returned by the method is: 0 (SUCCESS) } $
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods

a. SHOW BALANCE b. SHOW STATE

Sukanta Sharma (A20472623)

c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS					
q. Quit Account Driver					
Enter your choice:					
1					
Your choice is : 1					
Class: Account					
Type: Class Method Method: DEPOSIT					
Enter Deposit Amount:					
10					
The value returned by the method is: 0 (SUCCESS)					
Press Enter key to continue					
Driver for the Account					
0. OPEN					
1. DEPOSIT 2. WITHDRAW					
3. BALANCE					
4. LOCK 5. UNLOCK					
6. LOGIN 7. PIN					
8. LOGOUT					
Testing-Oriented Methods					
a. SHOW BALANCE b. SHOW STATE					
 c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS 					
ar show horizen or shoeseess of 2002h hineship					
q. Quit Account Driver					
Enter your choice:					
4					
Your choice is : 4					
Class: Account Type: Class Method					
Method: LOCK					
Enter Lock#:					

321

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Sukanta Sharma (A20472623)

The value returned by the method is: 0 (SUCCESS)

Daniel Enter house a continue						
Press Enter key to continue						
Driver for the Account						
0. OPEN						
1. DEPOSIT 2. WITHDRAW						
3. BALANCE 4. LOCK						
5. UNLOCK 6. LOGIN						
7. PIN						
8. LOGOUT						
Testing-Oriented Methods						
a. SHOW BALANCE						
<pre>b. SHOW STATE c. SHOW LOCKED STATUS</pre>						
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS						
q. Quit Account Driver						
Enter your choice:						
5						
Your choice is : 5						
Tour choice is . 5						
Class: Account Type: Class Method						
Method: UNLOCK						
Enter Lock#:						
321						
The value returned by the method is: 0 (SUCCESS						
Press Enter key to continue						
Press Enter key to continue						
Driver for the Account						
0. OPEN 1. DEPOSIT						
2. WITHDRAW 3. BALANCE						
4. LOCK						
5. UNLOCK 6. LOGIN						
7. PIN 8. LOGOUT						
Testing-Oriented Methods						
resering of refited fictions						

Sukanta Sharma (A20472623)

a. SHOW BALANCE b. SHOW STATE				
c. SHOW LOCKED STATUS				
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS				
q. Quit Account Driver				
Enter your choice:				
1				
Your choice is : 1				
Class: Account Type: Class Method Method: DEPOSIT				
Enter Denocit Amount				
Enter Deposit Amount:				
100				
The value returned by the method is: 0 (SUCCESS)				
Press Enter key to continue				
Driver for the Account				
0. OPEN				
1. DEPOSIT 2. WITHDRAW				
3. BALANCE 4. LOCK				
5. UNLOCK				
6. LOGIN 7. PIN				
8. LOGOUT				
Testing-Oriented Methods				
a. SHOW BALANCE				
<pre>b. SHOW STATE c. SHOW LOCKED STATUS</pre>				
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS				
q. Quit Account Driver				
Enter your choice:				
1				
Your choice is : 1				
Class: Account Type: Class Method				
Method: DEPOSIT				
Enter Deposit Amount:				

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Sukanta Sharma (A20472623)

10 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 3 Your choice is : 3 Class: Account Type: Class Method Method: BALANCE The value returned by the method is: Balance = 270 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT

Testing-Oriented Methods

Sukanta Sharma (A20472623)

a. SHOW BALANCE b. SHOW STATE					
c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS					
at short to be to the court in					
q. Quit Account Driver					
Enter your choice:					
4					
Your choice is : 4					
Class: Account Type: Class Method Method: LOCK					
Enter Lock#:					
321					
The value returned by the method is: 0 (SUCCESS)					
Press Enter key to continue					
Driver for the Account					
0. OPEN					
1. DEPOSIT					
2. WITHDRAW 3. BALANCE					
4. LOCK 5. UNLOCK					
6. LOGIN 7. PIN					
8. LOGOUT					
Testing-Oriented Methods					
a. SHOW BALANCE					
b. SHOW STATEc. SHOW LOCKED STATUS					
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS					
q. Quit Account Driver					
Enter your choice:					
5					
Your choice is : 5					
Tour choice is . 5					
Class: Account Type: Class Method					
Method: UNLOCK					
Enter Lock#:					

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Sukanta Sharma (A20472623)

321 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 2 Your choice is : 2 Class: Account Type: Class Method Method: WITHDRAW Enter Withdraw Amount: 100 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK

- 6. LOGIN 7. PIN 8. LOGOUT

Sukanta Sharma (A20472623)

Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 1 Class: Account Type: Class Method Method: DEPOSIT Enter Deposit Amount: 100 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 2

Class: Account Type: Class Method Method: WITHDRAW

Enter Withdraw Amount:					
10					
The value returned by the method is: 0 (SUCCESS					
Press Enter key to continue					
Driver for the Assemb					
Driver for the Account					
0. OPEN					
1. DEPOSIT 2. WITHDRAW					
3. BALANCE 4. LOCK					
5. UNLOCK					
6. LOGIN 7. PIN					
8. LOGOUT					
Testing-Oriented Methods					
a. SHOW BALANCE b. SHOW STATE					
c. SHOW LOCKED STATUS					
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS					
q. Quit Account Driver					
Enter your choice:					
1					
Your choice is : 1					
Class: Account					
Type: Class Method Method: DEPOSIT					
Enter Deposit Amount:					
10					
The value returned by the method is: 0 (SUCCESS					
Press Enter key to continue					
Driver for the Account					
0. OPEN					
1. DEPOSIT					
2. WITHDRAW3. BALANCE					
4. LOCK					
5. UNLOCK 6. LOGIN					

7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
2
Your choice is : 2
Class: Account
Type: Class Method Method: WITHDRAW
Enter Withdraw Amount:
10
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Treas Enter key to container!
Driver for the Account
0. OPEN 1. DEPOSIT
2. WITHDRAW
3. BALANCE 4. LOCK
5. UNLOCK 6. LOGIN
7. PIN 8. LOGOUT
Testing Oriented Methods
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE
c. SHOW LOCKED STATUSd. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
a Ouit Assaurt Drives
q. Quit Account Driver
Enter your choice:
4
Your choice is : 4

Class: Account Type: Class Method Method: LOCK
Enter Lock#:
321
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
5
Your choice is : 5
Class: Account Type: Class Method Method: UNLOCK
Enter Lock#:
321
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE

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5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 1 Class: Account Type: Class Method Method: DEPOSIT Enter Deposit Amount: 10 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice:

4. LOCK

Your choice is : 2

	ass Method WITHDRAW
nethou:	WIITDRAW
Enter Wi	thdraw Amount:
100	
	The value returned by the method is: 0 (SUCCESS)
_	
Press Er	ter key to continue
Driver f	for the Account
	0. OPEN 1. DEPOSIT
	2. WITHDRAW 3. BALANCE
	4. LOCK 5. UNLOCK
	6. LOGIN 7. PIN
	8. LOGOUT
Tostina	Oriented Methods
	Of Tented Methods
	a. SHOW BALANCE
	b. SHOW STATE c. SHOW LOCKED STATUS
	d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
	our choice:
8	
Your cho	ice is : 8
Class: A	ccount ass Method
Method:	
	The value returned by the method is: 0 (SUCCESS)
Droce Er	tor key to centinue
riess Li	iter key to continue
Driver f	or the Account
	0. OPEN 1. DEPOSIT
	2. WITHDRAW 3. BALANCE

4. LOCK 5. UNLOCK
6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE
c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
6
Your choice is : 6
Class: Account
Type: Class Method Method: LOGIN
Enter Account#:
100
The value returned by the method is: 0 (SUCCESS
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT
2. WITHDRAW 3. BALANCE
4. LOCK 5. UNLOCK
6. LOGIN
7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
<pre>b. SHOW STATE c. SHOW LOCKED STATUS</pre>
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
7
Your choice is : 7

Class: Account	
Type: Class Method Method: PIN	
iction. 114	
inter PIN:	
.23	
The value returned by the method is: 0 (SUCCES	S)
Press Enter key to continue	
Oriver for the Account	
0. OPEN 1. DEPOSIT	
2. WITHDRAW3. BALANCE	
4. LOCK 5. UNLOCK	
6. LOGIN 7. PIN	
8. LOGOUT	
Festing-Oriented Methods	
lesting-of tented riethous	
a. SHOW BALANCE	
b. SHOW STATEc. SHOW LOCKED STATUS	
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
3	
Your choice is : 8	
Class: Account	
Type: Class Method Method: LOGOUT	
The value returned by the method is: 0 (SUCCES	S)
Press Enter key to continue	
Driver for the Account	
0. OPEN 1. DEPOSIT	
2. WITHDRAW	
3. BALANCE	

Sukanta Sharma (A20472623)

- 4. LOCK
 5. UNLOCK
 6. LOGIN
 7. PIN
 8. LOGOUT

Testing-Oriented Methods

- a. SHOW BALANCE
 b. SHOW STATE
 c. SHOW LOCKED STATUS
 d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
- q. Quit Account Driver

Enter your choice:

Your choice is : q Quitting Account Driver...

THANK YOU!!!

CORRECTNESS

		Expected Result			Produced Result			
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt	
OPEN 100 123 190	T1	IDLE	190	0	IDLE	190	0	
LOGIN 100	T2	CHECK PIN	190	0	CHECK PIN	190	0	
PIN 123	Т8	OVERDRAWN	190	0	OVERDRAWN	190	0	
DEPOSIT 100	T16	READY	290	0	READY	290	0	
LOGOUT	T10	IDLE	290	0	IDLE	290	0	
LOGIN 100	T2	CHECK PIN	290	0	CHECK PIN	290	0	
PIN 2	Т3	CHECK PIN	290	1	CHECK PIN	290	1	
PIN 123	T18	READY	290	1	READY	290	1	

	Transi tion	Expected Result			Produced Result		
Function Called		State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
WITHDRA W 100	T14	OVERDRAWN	170	1	OVERDRAWN	170	1
DEPOSIT 10	T21	OVERDRAWN	170	1	OVERDRAWN	160	1
LOCK 321	T20	LOCKED	170	1	LOCKED	160	1
UNLOCK 321	T19	OVERDRAWN	170	1	OVERDRAWN	160	1
DEPOSIT 100	T16	READY	270	1	READY	260	1
DEPOSIT 10	T12	READY	280	1	READY	270	1
BALANCE	T13	READY	280	1	READY	270	1
LOCK 321	T4	LOCKED	280	1	LOCKED	270	1
UNLOCK 321	T17	READY	280	1	READY	270	1
WITHDRA W 100	T14	OVERDRAWN	160	1	OVERDRAWN	150	1
DEPOSIT 100	T16	READY	260	1	READY	250	1
WITHDRA W 10	T11	READY	250	1	READY	240	1
DEPOSIT 10	T12	READY	260	1	READY	250	1
WITHDRA W 10	T11	READY	250	1	READY	240	1
LOCK 321	T4	LOCKED	250	1	LOCKED	240	1
UNLOCK 321	T17	READY	250	1	READY	240	1

Sukanta Sharma (A20472623)

	Transi tion	Expected Result			Produced Result		
Function Called		State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
DEPOSIT 10	T12	READY	260	1	READY	250	1
WITHDRA W 100	T14	OVERDRAWN	140	1	OVERDRAWN	130	1
LOGOUT	Т9	IDLE	140	1	IDLE	130	1
LOGIN 100	T2	CHECK PIN	140	0	CHECK PIN	130	0
PIN 123	T8	OVERDRAWN	140	0	OVERDRAWN	130	0
LOGOUT	Т9	IDLE	140	0	IDLE	130	0

As from the above table we can see that expected results are not matched with produced result. Hence the test case is **FAILED**. The contradicting operations are highlighted in **RED** color in the above table. This test case is also mentioned later in this report in the section <u>List of Failed Test Cases</u>

TESTCASE#4

TEST CASE

From TS.txt

Test#4: open 100 123 190 login 100 pin 123 logout

As method call

Test#4: open(100,123,190), login(100), pin(123), logout()

TRANSITION TRAVERSED

T1, T2, T8, T9

OUTPUT OF ACCOUNT CLASS

CS 589; Fall 2021 PROJECT Sukanta Sharma A2042623

Press Enter	key to continue
	,
Driver for	the Account
1	. OPEN . DEPOSIT
	. WITHDRAW . BALANCE
4	. LOCK
6	. UNLOCK . LOGIN
	. PIN . LOGOUT
Testing_Ori	ented Methods
	ented Methods
	. SHOW BALANCE . SHOW STATE
С	. SHOW LOCKED STATUS
ū	. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q	. Quit Account Driver
Enter your	choice:
9	
Your choice	is: 0
Class: Acco	unt
Type: Class Method: OPE	Method
Enter Accou 100	nt#:
Enter PIN:	
123 Enter initi	al balance:
190	at batance.
	The value returned by the method is: 0 (SUCCESS)
Press Enter	key to continue
ricas Enter	key to continue
Driver for	the Account
	. OPEN
	. DEPOSIT . WITHDRAW
3	BALANCE LOCK
4	. Lock

5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing—Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
6 Your choice is : 6
Tour choice is . 0
Class: Account Type: Class Method Method: LOGIN
Enter Account#:
100
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods
Testing-Uriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
7
Your choice is : 7

Class: Account	
ype: Class Me ethod: PIN	ethod
inter PIN:	
23	
	The value returned by the method is: 0 (SUCCESS)
ress Enter ke	ey to continue
river for the	Account
0. (
2. V	DEPOSIT VITHDRAW
4. l	
	NLOCK LOGIN
7. F 8. L	PIN OGOUT
esting-Orient	ed Methods
a. 9	SHOW BALANCE
	SHOW STATE SHOW LOCKED STATUS
	SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. (uit Account Driver
Enter your cho	pice:
3	
our choice is	s : 8
Class: Account Type: Class Me Method: LOGOUT	ethod
	The value returned by the method is: 0 (SUCCESS)
Press Enter ke	ey to continue
Driver for the	: Account
0. (
2. V	DEPOSIT VITHDRAW
	BALANCE LOCK

Sukanta Sharma (A20472623)

- 5. UNLOCK
- 6. LOGIN
- 7. PTN 8. LOGOUT

Testing-Oriented Methods

- a. SHOW BALANCE
- b. SHOW STATE c. SHOW LOCKED STATUS
- d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
- q. Quit Account Driver

Enter your choice:

Your choice is : q Quitting Account Driver...

THANK YOU!!!

CORRECTNESS

Function Called	E	Result	Produced Result			
	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
OPEN 100 123 190	IDLE	190	0	IDLE	190	0
LOGIN 100	CHECK PIN	190	0	CHECK PIN	190	0
PIN 123	OVERDRAWN	190	0	OVERDRAWN	190	0
LOGOUT	IDLE	190	0	IDLE	190	0

As from the above table we can see that expected results are matched with produced result. Hence the test case is PASSED.

TESTCASE#5

TEST CASE

From TS.txt

Test#5: open 100 123 300 login 100 pin 123 lock 321 unlock 321 withdraw 10 withdraw 100 deposit 100 lock 321 unlock 321 logout login 100 pin 123 deposit 10 logout login 100 pin 123 withdraw 10 logout login 100 pin 123 logout

Sukanta Sharma (A20472623)

As method call

Test#5: open(100,123,300), login(100), pin(123), lock(321), unlock(321), withdraw(10), withdraw(100), deposit(100), lock(321), unlock(321), logout(), login(100), pin(123), deposit(10), logout(), login(100), pin(123), withdraw(10), logout(), login(100), pin(123), logout()

TRANSITION TRAVERSED

T1, T2, T18, T4, T17, T11, T14, T16, T4, T17, T10, T2, T18, T12, T10, T2, T18, T11, T10, T2, T18, T10

OUTPUT OF ACCOUNT CLASS

CS 589; Fall 2021 PROJECT Sukanta Sharma A2042623

CORRECTNESS

Function	E	xpected	Result	Р	roduced	Result
Called	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
OPEN 100 123 300	IDLE	300	0	IDLE	300	0
LOGIN 100	CHECK PIN	300	0	CHECK PIN	300	0
PIN 123	READY	300	0	READY	300	0
LOCK 321	LOCKED	300	0	LOCKED	300	0
UNLOCK 321	READY	300	0	READY	300	0
WITHDRAW 10	READY	290	0	READY	290	0
WITHDRAW 100	OVERDRAWN	170	0	OVERDRAWN	170	0

Sukanta Sharma (A20472623)

Function	E	xpected	Result	P	roduced	Result
Called	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
DEPOSIT 100	READY	270	0	READY	270	0
LOCK 321	LOCKED	270	0	LOCKED	270	0
UNLOCK 321	READY	270	0	READY	270	0
LOGOUT	IDLE	270	0	IDLE	270	0
LOGIN 100	CHECK PIN	270	0	CHECK PIN	270	0
PIN 123	READY	270	0	READY	270	0
DEPOSIT 10	READY	280	0	READY	280	0
LOGOUT	IDLE	280	0	IDLE	280	0
LOGIN 100	CHECK PIN	280	0	CHECK PIN	280	0
PIN 123	READY	280	0	READY	280	0
WITHDRAW 10	READY	270	0	READY	270	0
LOGOUT	IDLE	270	0	IDLE	270	0
LOGIN 100	CHECK PIN	270	0	CHECK PIN	270	0
PIN 123	READY	270	0	READY	270	0
LOGOUT	IDLE	270	0	IDLE	270	0

As from the above table we can see that expected results are matched with produced result. Hence the test case is **PASSED**.

TESTCASE#6

TEST CASE

From TS.txt

Test#6: open 100 123 200 open 100 123 200 logout pin 123 deposit 100 withdraw 100 balance lock 321 unlock 321

Sukanta Sharma (A20472623)

As method call

open(100,123,200), Test#6: open(100,123,200), logout(), pin(123), deposit(100), withdraw(100), balance(), lock(321), unlock(321)

TRANSITION TRAVERSED

T1

OUTPUT OF ACCOUNT CLASS

CS 589; Fall 2021 PROJECT Sukanta Sharma A2042623

Press Enter key to continue...

Driver for the Account

- 0. OPEN 1. DEPOSIT 2. WITHDRAW
- 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT

Testing-Oriented Methods

- a. SHOW BALANCEb. SHOW STATE
- d. SHOW LOCKED STATUS
 d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS

q. Quit Account Driver

Enter your choice:

Your choice is : 0

Class: Account Type: Class Method Method: OPEN

Enter Account#:

100

Enter PIN:
Enter initial balance:
200
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN
1. DEPOSIT 2. WITHDRAW
3. BALANCE 4. LOCK
5. UNLOCK 6. LOGIN
7. PIN 8. LOGOUT
3. 25665.
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATEc. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
0
Your choice is : 0
Class: Account
Type: Class Method Method: OPEN
Enter Account#:
100 Enter PIN:
123
Enter initial balance: 200
The value returned by the method is: -1 (FAILED)
The factor retained by the method 151 1 (M1212)
Press Enter key to continue
Driver for the Account

Sukanta Sharma (A20472623)

1. 2. 3. 4. 5. 6.	OPEN DEPOSIT WITHDRAW BALANCE LOCK UNLOCK LOGIN PIN LOGOUT
Testing-Orie	nted Methods
b. c.	SHOW BALANCE SHOW STATE SHOW LOCKED STATUS SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q.	Quit Account Driver
Enter your c 8 Your choice	
Class: Accou Type: Class Method: LOGO	Method
Press Enter	The value returned by the method is: -1 (FAILED) key to continue
Driver for t	he Account
1. 2. 3. 4. 5. 6.	OPEN DEPOSIT WITHDRAW BALANCE LOCK UNLOCK LOGIN PIN LOGOUT
Testing-Orie	nted Methods
b. c.	SHOW BALANCE SHOW STATE SHOW LOCKED STATUS SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q.	Quit Account Driver
Enter your c	hoice:
7	

Your choice is : 7

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Class: Account
Type: Class Method Method: PIN
Fabra OTN.
Enter PIN:
The value returned by the method is: -1 (FAILED)
The value returned by the method is1 (PAILLD)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT
2. WITHDRAW 3. BALANCE
4. LOCK 5. UNLOCK
6. LOGIN 7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATE c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
1
Your choice is : 1
Class: Account
Type: Class Method Method: DEPOSIT
Enter Deposit Amount:
100
The value returned by the method is: -1 (FAILED)
THE VALUE RETURNED BY THE METHOD IS: -1 (FAILED)
Press Enter key to continue
Driver for the Account
DITACL LOL FILE WCCOMIL

Sukanta Sharma (A20472623)

1. DEPOSIT 2. WITHDRAW
3. BALANCE 4. LOCK
5. UNLOCK 6. LOGIN
7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATEc. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
2
Your choice is : 2
Class: Account
Type: Class Method Method: WITHDRAW
Enter Withdraw Amount:
100
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Tress Enter key to continue in
Driver for the Account
0. OPEN1. DEPOSIT
2. WITHDRAW 3. BALANCE
4. LOCK
5. UNLOCK 6. LOGIN
7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATEc. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
di date veccone pi tici
Enter your choice:
3
Your choice is : 3

0. OPEN

Class: Account Type: Class Method Method: BALANCE The value returned by the method is: Balance = -1 (FAILED) Press Enter key to continue Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
Press Enter key to continue Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BAL-MICE 4. LUGIN 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	Type: Class Method	
Press Enter key to continue Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BAL-MICE 4. LUGIN 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	The value returned by the method is: Balance = -1	(FAILED)
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	Press Enter key to continue	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	Driver for the Account	
1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	a open	
3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	1. DEPOSIT	
5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	6. LOGIN	
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	Testing-Oriented Methods	
c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	a. SHOW BALANCE	
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
Enter your choice: 4 Your choice is: 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	a Quit Account Driver	
Your choice is : 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	q. Quit Account Dilver	
Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	Enter your choice:	
Class: Account Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	4	
Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue	Your choice is : 4	
Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
Type: Class Method Method: LOCK Enter Lock#: 321 The value returned by the method is: -1 (FAILED) Press Enter key to continue		
The value returned by the method is: -1 (FAILED) Press Enter key to continue	Type: Class Method	
The value returned by the method is: -1 (FAILED) Press Enter key to continue	Enter Lock#:	
The value returned by the method is: -1 (FAILED) Press Enter key to continue	371	
Press Enter key to continue		
	The value returned by the method is: -1 (FAILED)	
Driver for the Account	Press Enter key to continue	
Driver for the Account		
	Driver for the Account	

0. OPEN 1. DEPOSIT	
2. WITHDRAW 3. BALANCE	
4. LOCK 5. UNLOCK 6. LOGIN	
7. PIN 8. LOGOUT	
8. LUGUUT	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE	
c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTE	MPTS
q. Quit Account Driver	
Enter your choice: 5	
Your choice is : 5	
Tour choice is . 5	
Class: Account	
Type: Class Method Method: UNLOCK	
Enter Lock#:	
321	
The value returned by the metho	d is: -1 (FAILED)
Dross Enter key to continue	
Press Enter key to continue	
Driver for the Account	
0. OPEN	
 DEPOSIT WITHDRAW 	
3. BALANCE 4. LOCK	
5. UNLOCK 6. LOGIN	
7. PIN 8. LOGOUT	
01 20001	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE	
c. SHOW LOCKED STATUS	MDTC
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTE	PIF 13
q. Quit Account Driver	
Enter your choice:	
q	
Your choice is : q	

Sukanta Sharma (A20472623)

THANK YOU!!!	Quitting Account	Driver		
		THANK YOU	!!!	

CORRECTNESS

		Ехре	cted Result			Prod	uced Result	
Function Called	State After Transition	Bala nce	No. of Unsuccessful Attempt	Return Value	State After Transition	Bala nce	No. of Unsuccessful Attempt	Return Value
OPEN 100 123 200	IDLE	200	0	0	IDLE	200	0	0
OPEN 100 123 200	IDLE	200	0	-1	IDLE	200	0	-1
LOGOUT	IDLE	200	0	-1	IDLE	200	0	-1
PIN 123	IDLE	200	0	-1	IDLE	200	0	-1
DEPOSIT 100	IDLE	200	0	-1	IDLE	200	0	-1
WITHDRA W 100	IDLE	200	0	-1	IDLE	200	0	-1
BALANCE	IDLE	200	0	-1	IDLE	200	0	-1
LOCK 321	IDLE	200	0	-1	IDLE	200	0	-1
UNLOCK 321	IDLE	200	0	-1	IDLE	200	0	-1

As from the above table we can see that expected results are matched with produced result. Hence the test case is **PASSED**.

TESTCASE#7

TEST CASE

From TS.txt

Test#7: open 100 123 200 login 100 open -100 123 200 login 100 deposit 100 withdraw 100 balance lock 321 unlock 0

As method call

Test#7: open(100,123,200), login(100), open(-100,123,200), login(100), deposit(100), withdraw(100), balance(), lock(321), unlock(0)

TRANSITION TRAVERSED

Sukanta Sharma (A20472623)

T1, T2

OUTPUT OF ACCOUNT CLASS

CS 589; Fall 2021 PROJECT Sukanta Sharma A2042623

Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 0 Class: Account Type: Class Method Method: OPEN Enter Account#: 100 Enter PIN: 123 Enter initial balance: 200 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue...

Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED S d. SHOW NUMBER 0	STATUS IF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account	Driver
Enter your choice:	
6	
Your choice is : 6	
Class: Account Type: Class Method Method: LOGIN	
Enter Account#:	
100	
The va	lue returned by the method is: 0 (SUCCESS)
Press Enter key to continu	e
Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGUT	
Testing-Oriented Methods	
a. SHOW BALANCE b. SHOW STATE	
c. SHOW LOCKED S	TATUS

q. Quit Account Driver
Enter your choice:
0
Your choice is : 0
Tour choice 13 . V
Class: Account Type: Class Method Method: OPEN
Enter Account#:
-100
Enter PIN:
123 Enter initial balance:
200
The value returned by the method is: -1 (FAILED)
Dance February to continue
Press Enter key to continue
Driver for the Account
0. OPEN
 DEPOSIT WITHDRAW
3. BALANCE 4. LOCK
5. UNLOCK
6. LOGIN 7. PIN
8. LOGOUT
Testing—Oriented Methods
Testing-Oriented Methods
Testing-Oriented Methods a. SHOW BALANCE
a. SHOW BALANCE b. SHOW STATE
a. SHOW BALANCE b. SHOW STATE
a. SHOW BALANCE
a. SHOW BALANCE b. SHOW STATE
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice:
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice:
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice:
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice:
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice:
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice:

Enter Acc	ount#:
100	
	The value returned by the method is: -1 (FAILED)
	The value returned by the method is1 (TAILLD)
Press Ente	er key to continue
	,
Driver fo	r the Account
	0. OPEN 1. DEPOSIT
	2. WITHDRAW
	3. BALANCE 4. LOCK
	5. UNLOCK
	6. LOGIN 7. PIN
	8. LOGOUT
Testing-0	riented Methods
	
	a. SHOW BALANCE b. SHOW STATE
	c. SHOW LOCKED STATUS
	d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter you	r cnoice:
1	
Your choic	ce is : 1
Class: Acc	count
Type: Clas	
Method: Di	EPOSIT
Enter Debo	osit Amount:
100	
	The value returned by the method is: -1 (FAILED)
Press Ente	er key to continue
Driver fo	r the Account
	0. OPEN
	1. DEPOSIT 2. WITHDRAW
	3. BALANCE
	4. LOCK 5. UNLOCK
	6. LOGIN
	7. PIN

Sukanta Sharma (A20472623)

8. LOGOUT

Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
2
Your choice is : 2
Class: Account Type: Class Method Method: WITHDRAW
Enter Withdraw Amount:
100
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT
2. WITHDRAW3. BALANCE
4. LOCK 5. UNLOCK
6. LOGIN 7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATEc. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
3
Your choice is : 3
Class: Account

Type: Class Method Method: BALANCE	
The value returned by the method is: Balance = -1	(FAILED)
Press Enter key to continue	
Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK	
5. UNLOCK 6. LOGIN 7. PIN	
8. LOGOUT	
Testing-Oriented Methods	
a. SHOW BALANCEb. SHOW STATEc. SHOW LOCKED STATUSd. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS	
q. Quit Account Driver	
Enter your choice:	
4	
Your choice is : 4	
Class: Account Type: Class Method Method: LOCK	
Enter Lock#:	
321	
The value returned by the method is: -1 (FAILED)	
Press Enter key to continue	
Driver for the Account	
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN	

Sukanta Sharma (A20472623)

8. LOGOUT

Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
5
Your choice is : 5
Class: Account Type: Class Method Method: UNLOCK
Enter Lock#:
0
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
The state of the contest of the state of the
Driver for the Account
0. OPEN
1. DEPOSIT
2. WITHDRAW3. BALANCE
4. LOCK 5. UNLOCK
6. LOGIN 7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATEc. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
q
Your choice is : q Quitting Account Driver
THANK YOU!!!
**

Sukanta Sharma (A20472623)

CORRECTNESS

Expected Result					Produced Result			
Function Called	State After Transition	Bala nce	No. of Unsuccessful Attempt	Return Value	State After Transition	Bala nce	No. of Unsuccessful Attempt	Return Value
OPEN 100 123 200	IDLE	200	0	0	IDLE	200	0	0
LOGIN 100	CHECK PIN	200	0	0	CHECK PIN	200	0	0
OPEN - 100 123 200	CHECK PIN	200	0	-1	CHECK PIN	200	0	-1
LOGIN 100	CHECK PIN	200	0	-1	CHECK PIN	200	0	-1
DEPOSIT 100	CHECK PIN	200	0	-1	CHECK PIN	200	0	-1
WITHDRA W 100	CHECK PIN	200	0	-1	CHECK PIN	200	0	-1
BALANCE	CHECK PIN	200	0	-1	CHECK PIN	200	0	-1
LOCK 321	CHECK PIN	200	0	-1	CHECK PIN	200	0	-1
UNLOCK 0	CHECK PIN	200	0	-1	CHECK PIN	200	0	-1

As from the above table we can see that expected results are matched with produced result. Hence the test case is **PASSED**.

TESTCASE#8

TEST CASE

From TS.txt

Test#8: open 100 123 200 login 100 pin 123 open 100 -123 200 login 100 pin 123 withdraw 0 lock 123 unlock 123

As method call

Test#8: open(100,123,200), login(100), pin(123), open(100,-123,200), login(100), pin(123), withdraw(0), lock(123), unlock(123)

TRANSITION TRAVERSED

T1, T2, T18

OUTPUT OF ACCOUNT CLASS

Sukanta Sharma (A20472623)

CS 589; Fall 2021 PROJECT Sukanta Sharma A2042623

Press Enter k	ey to continue
Tress Enter K	cy to continue
Driver for th	e Account
	OPEN
1. 2.	DEPOSIT WITHDRAW
3.	BALANCE
	LOCK UNLOCK
6.	LOGIN
	PIN LOGOUT
0.	E00001
Testing-Orien	ted Methods
a.	SHOW BALANCE
b.	SHOW STATE
	SHOW LOCKED STATUS SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q.	Quit Account Driver
Enter your ch	oice:
0	
Your choice i	s : 0
Class: Accoun	
Type: Class M Method: OPEN	ethod
Enter Account	#:
100 Enter PIN:	
<mark>123</mark> Enter initial	balance:
200	
	The value returned by the method is: 0 (SUCCESS)
Press Enter k	ey to continue

Sukanta Sharma (A20472623)

Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCEb. SHOW STATEc. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 6 Your choice is : 6 Class: Account Type: Class Method Method: LOGIN Enter Account#: 100 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE d. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS

Enter your choice:

q. Quit Account Driver

Sukanta Sharma (A20472623)

Your choice is : 7 Class: Account Type: Class Method Method: PIN Enter PIN: 123 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 0 Class: Account Type: Class Method Method: OPEN Enter Account#: 100 Enter PIN: Enter initial balance: 200

The value returned by the method is: -1 (FAILED)

Sukanta Sharma (A20472623)

Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice: 6 Your choice is : 6
Class: Account Type: Class Method Method: LOGIN
Enter Account#:
100 $ \label{eq:The value returned by the method is: -1 (FAILED) } $
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods

a. SHOW BALANCE b. SHOW STATE

Sukanta Sharma (A20472623)

c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
7
Your choice is : 7
Class: Account
Type: Class Method Method: PIN
Enter PIN:
123
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
0. OPEN1. DEPOSIT
2. WITHDRAW 3. BALANCE
4. LOCK 5. UNLOCK
6. LOGIN 7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATEc. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
2
Your choice is : 2
Class: Account Type: Class Method
Method: WITHDRAW
Enter Withdraw Amount:

9

Sukanta Sharma (A20472623)

The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 4 Your choice is : 4 Class: Account Type: Class Method Method: LOCK Enter Lock#: 123 The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK

- 6. LOGIN 7. PIN
- 8. LOGOUT

Testing-Oriented Methods

Sukanta Sharma (A20472623)

	a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter you	r choice:
5	
Your choi	ce is : 5
Class: Acc Type: Clas Method: UM	ss Method
Enter Loc	** :
123	
	The value returned by the method is: -1 (FAILED)
	er key to continue r the Account
	0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-0	riented Methods
	a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
	q. Quit Account Driver
Enter you	r choice:
q	
Your choic Quitting	ce is : q Account Driver
	THANK YOU!!!

CORRECTNESS

Sukanta Sharma (A20472623)

	Expected Result				Produced Result			
Function Called	State After Transition	Bala nce	No. of Unsuccessful Attempt	Return Value	State After Transition	Bala nce	No. of Unsuccessful Attempt	Return Value
OPEN 100 123 200	IDLE	200	0	0	IDLE	200	0	0
LOGIN 100	CHECK PIN	200	0	0	CHECK PIN	200	0	0
PIN 123	READY	200	0	0	READY	200	0	0
OPEN 100 -123 200	READY	200	0	-1	READY	200	0	-1
LOGIN 100	READY	200	0	-1	READY	200	0	-1
PIN 123	READY	200	0	-1	READY	200	0	-1
WITHDRA W 0	READY	200	0	-1	READY	200	0	-1
LOCK 123	READY	200	0	-1	READY	200	0	-1
UNLOCK 123	READY	200	0	-1	READY	200	0	-1

As from the above table we can see that expected results are matched with produced result. Hence the test case is **PASSED**.

TESTCASE#9

TEST CASE

From TS.txt

Test#9: open 100 123 190 login 100 pin 123 open -100 -123 200 login 100 pin 123 withdraw 100 lock 123 unlock 321

As method call

Test#9: open(100,123,190), login(100), pin(123), open(-100,-123,200), login(100), pin(123), withdraw(100), lock(123), unlock(321)

TRANSITION TRAVERSED

T1, T2, T8

OUTPUT OF ACCOUNT CLASS

CS 589; Fall 2021

Sukanta Sharma (A20472623)

PROJECT Sukanta Sharma A2042623

Dress Enter	key to continue
riess Liitei	key to continue
Driver for t	he Account
	OPEN DEPOSIT
	WITHDRAW
	BALANCE LOCK
	UNLOCK
6.	LOGIN
	PIN LOGOUT
-	
Testing-Orie	nted Methods
	SHOW BALANCE
	SHOW STATE SHOW LOCKED STATUS
	SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q.	Quit Account Driver
Enter your c	hoice:
0	
V	· 0
Your choice	15 : 0
Class: Accou Type: Class I	
Method: OPEN	ne triou
Enter Accoun	t#:
100	
Enter PIN:	
123	
Enter initia	l balance:
190	
250	T
	The value returned by the method is: 0 (SUCCESS)
Droce Entar	key to continue
riess Enter	key to continue
Driver for +	ho Account
Driver for t	

0. OPEN

Sukanta Sharma (A20472623)

1. DEPOSIT 1. DEPOSTI
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT ${\sf Testing-Oriented\ Methods}$ a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 6 Class: Account Type: Class Method Method: LOGIN Enter Account#: 100 The value returned by the method is: 0 (SUCCESS) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice:

Your choice is : 7

Class: Account Type: Class Method
Method: PIN
Enter PIN:
123
The value returned by the method is: 0 (SUCCESS)
···· · · · · · · · · · · · · · · · · ·
Press Enter key to continue
Driver for the Account
0.0054
0. OPEN 1. DEPOSIT
2. WITHDRAW
3. BALANCE 4. LOCK
5. UNLOCK 6. LOGIN
7. PIN
8. LOGOUT
Testing-Oriented Methods
CHOIL DALANCE
a. SHOW BALANCE b. SHOW STATE
c. SHOW LOCKED STATUSd. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
di Shor Norbert di Giseccessi de Eddit Affeli 15
q. Quit Account Driver
Enter your choice:
0
Your choice is : 0
Class: Account
Type: Class Method
Method: OPEN
Enter Account#:
-100 Enter PIN:
-123 Enter initial balance:
200
The value returned by the method is: −1 (FAILED)
Press Enter key to continue

Sukanta Sharma (A20472623)

Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE d. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 6 Class: Account Type: Class Method Method: LOGIN Enter Account#: 100 The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS

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Sukanta Sharma (A20472623)

q. Quit Account Driver Enter your choice: Your choice is : 7 Class: Account Type: Class Method Method: PIN Enter PIN: 123 The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 2 Your choice is : 2 Class: Account Type: Class Method Method: WITHDRAW Enter Withdraw Amount: 100 The value returned by the method is: -1 (FAILED)

Press Enter key to continue...

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Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice: 4
Your choice is : 4
Class: Account Type: Class Method Method: LOCK
Enter Lock#:
123
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS

Sukanta Sharma (A20472623)

d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
5
Your choice is : 5
Class: Account Type: Class Method Method: UNLOCK
Enter Lock#:
321
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
0. OPEN
1. DEPOSIT 2. WITHDRAW
3. BALANCE 4. LOCK
5. UNLOCK 6. LOGIN
7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE
c. SHOW LOCKED STATUSd. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
q. Quit Account Driver
Enter your choice:
q
Your choice is : q Quitting Account Driver
THANK YOU!!!

CORRECTNESS

Sukanta Sharma (A20472623)

	Expected Result				Produced Result			
Function Called	State After Transition	Bala nce	No. of Unsuccessful Attempt	Return Value	State After Transition	Bala nce	No. of Unsuccessful Attempt	Return Value
OPEN 100 123 190	IDLE	190	0	0	IDLE	190	0	0
LOGIN 100	CHECK PIN	190	0	0	CHECK PIN	190	0	0
PIN 123	OVERDRAW N	190	0	0	OVERDRAW N	190	0	0
OPEN -100 -123 200	OVERDRA WN	190	0	-1	OVERDRA WN	190	0	-1
LOGIN 100	OVERDRA WN	190	0	-1	OVERDRA WN	190	0	-1
PIN 123	OVERDRA WN	190	0	-1	OVERDRA WN	190	0	-1
WITHDRA W 100	OVERDRA WN	190	0	-1	OVERDRA WN	190	0	-1
LOCK 123	OVERDRA WN	190	0	-1	OVERDRA WN	190	0	-1
UNLOCK 321	OVERDRA WN	190	0	-1	OVERDRA WN	190	0	-1

As from the above table we can see that expected results are matched with produced result. Hence the test case is **PASSED**.

TESTCASE#10

TEST CASE

From TS.txt

Test#10: open 100 123 190 login 100 pin 123 lock 321 open 100 123 -200 login 100 logout pin 123 deposit 100 withdraw 100 lock 321 unlock 12

As method call

Test#10: open(100,123,190), login(100), pin(123), lock(321), open(100,123,-200), login(100), logout(), pin(123), deposit(100), withdraw(100), lock(321), unlock(12)

TRANSITION TRAVERSED

T1, T2, T8, T20

OUTPUT OF ACCOUNT CLASS

Sukanta Sharma (A20472623)

CS 589; Fall 2021 PROJECT Sukanta Sharma A2042623

Press Enter key to continue
Driver for the Account
0. OPEN
1. DEPOSIT 2. WITHDRAW 3. BALANCE
4. LOCK 5. UNLOCK
6. LOGIN 7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE
c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
0
Your choice is : 0
Class: Account Type: Class Method Method: OPEN
Enter Account#:
100 Enter PIN:
123 Enter initial balance:
190
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account

Sukanta Sharma (A20472623)

0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
6
Your choice is : 6
Class: Account Type: Class Method Method: LOGIN
Enter Account#:
100
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:

Your choice is : 7

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Class: Account Type: Class Method Method: PIN
Enter PIN:
123
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
4
Your choice is : 4
Class: Account Type: Class Method Method: LOCK
Enter Lock#:
321
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue

Sukanta Sharma (A20472623)

Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCEb. SHOW STATEc. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 0 Your choice is : 0 Class: Account Type: Class Method Method: OPEN Enter Account#: 100 Enter PIN: Enter initial balance: -200 The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS

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Sukanta Sharma (A20472623)

q. Quit Account Driver
Enter your choice:
6
Your choice is : 6
Class: Account Type: Class Method Method: LOGIN
Enter Account#:
100
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
8
Your choice is : 8
Class: Account
Type: Class Method Method: LOGOUT
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
11035 Enter Rey to continuers

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Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
7
Your choice is : 7
Class: Account Type: Class Method Method: PIN
Enter PIN:
123
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS

Sukanta Sharma (A20472623)

q. Quit Account Driver
Enter your choice:
1
Your choice is : 1
Class: Account Type: Class Method Method: DEPOSIT
Enter Deposit Amount:
100
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Define for the Assura
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
2
Your choice is : 2
Class: Account Type: Class Method Method: WITHDRAW
Enter Withdraw Amount:
100

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The value returned by the method is: -1 (FAILED)

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Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice: 4 Your choice is : 4
Class: Account Type: Class Method Method: LOCK
Enter Lock#:
321 The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods

a. SHOW BALANCE b. SHOW STATE

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c. SHOW LOCKED STATUSd. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
5
Your choice is : 5
Class: Account Type: Class Method Method: UNLOCK
Enter Lock#:
12
The value returned by the method is: -1 (FAILED)
Danie Fator las de castiana
Press Enter key to continue
Driver for the Account
0. OPEN
1. DEPOSIT
2. WITHDRAW3. BALANCE
4. LOCK 5. UNLOCK
6. LOGIN
7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATEc. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
q
Your choice is : q
Quitting Account Driver
THANK YOU!!!

CORRECTNESS

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		Ехре	cted Result			Prod	uced Result	
Function Called	State After Transition	Bala nce	No. of Unsuccessful Attempt	Return Value	State After Transition	Bala nce	No. of Unsuccessful Attempt	Return Value
OPEN 100 123 190	IDLE	190	0	0	IDLE	190	0	0
LOGIN 100	CHECK PIN	190	0	0	CHECK PIN	190	0	0
PIN 123	OVERDRAW N	190	0	0	OVERDRAW N	190	0	0
LOCK 321	LOCKED	190	0	0	LOCKED	190	0	0
OPEN 100 123 -200	LOCKED	190	0	-1	LOCKED	190	0	-1
LOGIN 100	LOCKED	190	0	-1	LOCKED	190	0	-1
LOGOUT	LOCKED	190	0	-1	LOCKED	190	0	-1
PIN 123	LOCKED	190	0	-1	LOCKED	190	0	-1
DEPOSIT 100	LOCKED	190	0	-1	LOCKED	190	0	-1
WITHDRA W 100	LOCKED	190	0	-1	LOCKED	190	0	-1
LOCK 321	LOCKED	190	0	-1	LOCKED	190	0	-1
UNLOCK 12	LOCKED	190	0	-1	LOCKED	190	0	-1

As from the above table we can see that expected results are matched with produced result. Hence the test case is **PASSED**.

TESTCASE#11

TEST CASE

From TS.txt

Test#11: open -100 123 200 open 100 -123 200 open -100 -123 200 open 100 123 -200 open -100 123 -200 open 100 -123 -200 open -100 123 -200 open 100 -123 -200 open 100 -123 -200 open 100 -123 -200 open 100 -123 -200 login 100 pin 123 deposit 0 withdraw 190 deposit 0 withdraw 50 withdraw -10

As method call

Test#11: open(-100,123,200), open(100,-123,200), open(-100,-123,200), open(100,123,-200), open(-100,123,-200), open(-100,123,-200), open(-100,123,-200), open(-100,123,-200), open(-100,123,-200), open(-100,-123,-200), open(-1

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TRANSITION TRAVERSED

T1, T2, T18, T12, T14, T21

OUTPUT OF ACCOUNT CLASS

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Press Enter key to continue... Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 0 Class: Account Type: Class Method Method: OPEN Enter Account#: -100 Enter PIN: Enter initial balance: 200

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The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN
1. DEPOSIT
2. WITHDRAW
3. BALANCE
4. LOCK
5. UNLOCK
6. LOGIN
7. PIN
8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE
b. SHOW STATE
c. SHOW LOCKED STATUS
d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice:

0

Your choice is : 0

Class: Account Type: Class Method Method: OPEN

Enter Account#:

100

Enter PIN:

-123

Enter initial balance:

200

The value returned by the method is: -1 (FAILED)

Press Enter key to continue...

Driver for the Account

- 0. OPEN 1. DEPOSIT 2. WITHDRAW

- 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN

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7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver
Enter your choice:
0
Your choice is : 0
Class: Account Type: Class Method Method: OPEN
Enter Account#:
-100 Enter PIN:
-123 Enter initial balance:
200
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
0

Your choice is : 0

Class: Account Type: Class Method Method: OPEN
Enter Account#:
100 Enter PIN:
123 Enter initial balance:
-200
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
0
Your choice is : 0
Class: Account Type: Class Method Method: OPEN
Enter Account#:
-100 Enter PIN:
123 Enter initial balance:
-200
The value returned by the method is: -1 (FAILED)

Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
Your choice is : 0
Class: Account Type: Class Method Method: OPEN
Enter Account#:
100 Enter PIN:
-123 Enter initial balance:
-200
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN

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8. LOGOUT

Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
0
Your choice is : 0
Class: Account
Type: Class Method Method: OPEN
Enter Account#:
-100 Enter PIN:
-123 Enter initial balance:
-200
The value returned by the method is: -1 (FAILED)
Press Enter key to continue
Driver for the Account
a open
0. OPEN 1. DEPOSIT 2. WITHDRAW
3. BALANCE
4. LOCK 5. UNLOCK
6. LOGIN 7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE
b. SHOW STATEc. SHOW LOCKED STATUSd. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
0
Your choice is : 0

Class: Account Type: Class Method Method: OPEN
Enter Account#:
100 Enter PIN:
123 Enter initial balance:
200
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
0
Your choice is : 0
Class: Account Type: Class Method Method: OPEN
Enter Account#:
-100 Enter PIN:
123 Enter initial balance:
-200
The value returned by the method is: -1 (FAILED)

Press Enter	key to continue
Driver for	the Account
	OPEN
2	. DEPOSIT . WITHDRAW . BALANCE
4	LOCK UNLOCK
6	. LOGIN . PIN
8	. LOGOUT
Testing-Ori	ented Methods
	. SHOW BALANCE . SHOW STATE
С	. SHOW LOCKED STATUS . SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q	. Quit Account Driver
Enter your	choice:
0	
Your choice	is : 0
Class: Accor	unt.
Type: Class Method: OPE	Method
Enter Accou	nt#:
100 Enter PIN:	
-123	
Enter initia	al balance:
-200	
	The value returned by the method is: -1 (FAILED)
Press Enter	key to continue
Driver for	the Account
	. OPEN
2	. DEPOSIT . WITHDRAW
4	BALANCE LOCK
6	. UNLOCK . LOGIN
	. PIN . LOGOUT

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Testing-Oriented Methods a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: 0 Your choice is : 0 Class: Account Type: Class Method Method: OPEN Enter Account#: -100 Enter PIN: Enter initial balance: -200 The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE d. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 6

Class: Account Type: Class Method Method: LOGIN
Enter Account#:
100
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE
4. LOCK 5. UNLOCK
6. LOGIN 7. PIN
8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
7
Your choice is : 7
Class: Account Type: Class Method Method: PIN
Enter PIN:
123
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
DITAGE TOE THE ACCOUNT

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1. DEPOSI	
2. WITHDRA 3. BALANCI	
4. LOCK	
5. UNLOCK 6. LOGIN	
7. PIN	
8. LOGOUT	
Testing-Oriented Me	thods
a. SHOW B	
b. SHOW S	ГАТЕ
	OCKED STATUS IMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit A	ccount Driver
Enter your choice:	
1	
Your choice is : 1	
Class: Account	
Type: Class Method Method: DEPOSIT	
Enter Denesit Amoun	··
Enter Deposit Amoun	:
0	
	The value returned by the method is: -1 (FAILED)
Press Enter key to	continue
Driver for the Acco	unt
0. OPEN	
 DEPOSI 	
2. WITHDRA 3. BALANCI	
4. LOCK	-
5. UNLOCK 6. LOGIN	
7. PIN	
8. LOGOUT	
Testing-Oriented Me	thods
a. SHOW B	ALANCE
b. SHOW S	TATE OCKED STATUS
	JMBER OF UNSECCESSFUL LOGIN ATTEMPTS
a Oui+ A	ccount Driver
q. Quit A	Scount by Ive
Enter your choice:	
2	
Your choice is : 2	

0. OPEN

Class: Account Type: Class Method Method: WITHDRAW
Enter Withdraw Amount:
190
The value returned by the method is: 0 (SUCCESS)
Press Enter key to continue
Driver for the Account
0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT
Testing-Oriented Methods
a. SHOW BALANCE b. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
q. Quit Account Driver
Enter your choice:
1
Your choice is : 1
Class: Account Type: Class Method Method: DEPOSIT
Enter Deposit Amount:
0
The value returned by the method is: -1 (FAILED)
Press Enter key to continue

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Driver for the Account 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCEb. SHOW STATEc. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS q. Quit Account Driver Enter your choice: Your choice is : 2 Class: Account Type: Class Method Method: WITHDRAW Enter Withdraw Amount: 50 The value returned by the method is: -1 (FAILED) Press Enter key to continue... Driver for the Account 0. OPEN 0. OPEN 1. DEPOSIT 2. WITHDRAW 3. BALANCE 4. LOCK 5. UNLOCK 6. LOGIN 7. PIN 8. LOGOUT Testing-Oriented Methods a. SHOW BALANCE d. SHOW STATE c. SHOW LOCKED STATUS d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS

- q. Quit Account Driver

Enter your choice:

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Your choice is : 2

Class: Account Type: Class Method Method: WITHDRAW

Enter Withdraw Amount:

The value returned by the method is: -1 (FAILED)

Press Enter key to continue...

Driver for the Account

- 0. OPEN
 1. DEPOSIT
 2. WITHDRAW
 3. BALANCE
 4. LOCK
 5. UNLOCK
 6. LOGIN
 7. PIN
 8. LOGOUT

Testing-Oriented Methods

- a. SHOW BALANCE
 b. SHOW STATE
 c. SHOW LOCKED STATUS
 d. SHOW NUMBER OF UNSECCESSFUL LOGIN ATTEMPTS
- q. Quit Account Driver

Enter your choice:

Your choice is : q Quitting Account Driver...

THANK YOU!!!

CORRECTNESS

		Expe	cted Result	Produced Result					
Function Called	State After Transition	Bal anc e	No. of Unsuccessful Attempt	Return Value	State After Transition	Bal anc e	No. of Unsuccessful Attempt	Return Value	
OPEN -100 123 200	START	0	0	-1	START	0	0	-1	

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		Expe	cted Result			Prod	uced Result	
Function Called	State After Transition	Bal anc e	No. of Unsuccessful Attempt	Return Value	State After Transition	Bal anc e	No. of Unsuccessful Attempt	Return Value
OPEN 100 - 123 200	START	0	0	-1	START	0	0	-1
OPEN -100 -123 200	START	0	0	-1	START	0	0	-1
OPEN 100 123 -200	START	0	0	-1	START	0	0	-1
OPEN -100 123 -200	START	0	0	-1	START	0	0	-1
OPEN 100 - 123 -200	START	0	0	-1	START	0	0	-1
OPEN -100 -123 -200	START	0	0	-1	START	0	0	-1
OPEN 100 123 200	IDLE	200	0	0	IDLE	200	0	0
OPEN -100 123 -200	IDLE	200	0	-1	IDLE	200	0	-1
OPEN 100 - 123 -200	IDLE	200	0	-1	IDLE	200	0	-1
OPEN -100 -123 -200	IDLE	200	0	-1	IDLE	200	0	-1
LOGIN 100	CHECK PIN	200	0	0	CHECK PIN	200	0	0
PIN 123	READY	200	0	0	READY	200	0	0
DEPOSIT 0	READY	200	0	-1	READY	200	0	-1
WITHDRA W 190	OVERDRAW N	-10	0	0	OVERDRAW N	-10	0	0
DEPOSIT 0	OVERDRAW N	-10	0	-1	OVERDRAW N	-10	0	-1
WITHDRA W 50	OVERDRAW N	-10	0	-1	OVERDRAW N	-10	0	-1
WITHDRA W -10	OVERDRAW N	-10	0	-1	OVERDRAW N	-10	0	-1

As from the above table we can see that expected results are matched with produced result. Hence the test case is **PASSED**.

LIST OF FAILED TEST CASES

TESTCASE#1

INCORRECT PRODUCED OUTPUT AND EXPECTED CORRECT OUTPUT

	Expected Result				Produced Result			
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt	
OPEN 100 123 200	T1	IDLE	200	0	IDLE	200	0	
LOGIN 150	T7	IDLE	200	0	IDLE	200	0	
LOGIN 140	T7	IDLE	200	0	IDLE	200	0	
LOGIN 100	T2	CHECK PIN	200	0	CHECK PIN	200	0	
PIN 1	Т3	CHECK PIN	200	1	CHECK PIN	200	1	
PIN 2	Т3	CHECK PIN	200	2	CHECK PIN	200	2	
PIN 3	T6	IDLE	200	2	IDLE	200	3	
LOGIN 150	T7	IDLE	200	2	IDLE	200	3	
LOGIN 100	T2	CHECK PIN	200	0	CHECK PIN	200	0	
LOGOUT	T5	IDLE	200	0	IDLE	200	0	
LOGIN 140	Т7	IDLE	200	0	IDLE	200	0	
LOGIN 100	T2	CHECK PIN	200	0	CHECK PIN	200	0	
PIN 123	T18	READY	200	0	READY	200	0	
BALANCE	T13	READY	200	0	READY	200	0	
BALANCE	T13	READY	200	0	READY	200	0	
DEPOSIT 50	T12	READY	250	0	READY	250	0	
DEPOSIT 50	T12	READY	300	0	READY	300	0	
LOCK 321	T4	LOCKED	300	0	LOCKED	300	0	
BALANCE	T15	LOCKED	300	0	LOCKED	300	0	
BALANCE	T15	LOCKED	300	0	LOCKED	300	0	

		Ех	pected	Result	Produced Result			
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt	
UNLOCK 321	T17	READY	300	0	READY	300	0	
LOCK 321	T4	LOCKED	300	0	LOCKED	300	0	
UNLOCK 321	T17	READY	300	0	READY	300	0	
BALANCE	T13	READY	300	0	READY	300	0	
WITHDRA W 10	T11	READY	290	0	READY	290	0	
WITHDRA W 10	T11	READY	280	0	READY	280	0	
BALANCE	T13	READY	280	0	READY	280	0	
WITHDRA W 100	T14	OVERDRAWN	160	0	OVERDRAWN	160	0	
LOCK 321	T20	LOCKED	160	0	LOCKED	160	0	
BALANCE	T15	LOCKED	160	0	LOCKED	160	0	
UNLOCK 321	T19	OVERDRAWN	160	0	OVERDRAWN	160	0	
BALANCE	T22	OVERDRAWN	160	0	OVERDRAWN	160	0	
BALANCE	T22	OVERDRAWN	160	0	OVERDRAWN	160	0	
DEPOSIT 20	T21	OVERDRAWN	<mark>170</mark>	0	OVERDRAWN	<mark>160</mark>	•	
BALANCE	T22	OVERDRAWN	170	0	OVERDRAWN	160	0	
LOCK 321	T20	LOCKED	170	0	LOCKED	160	0	
UNLOCK 321	T19	OVERDRAWN	170	0	OVERDRAWN	160	0	

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		Ex	pected	Result	Produced Result		
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
BALANCE	T22	OVERDRAWN	170	0	OVERDRAWN	160	0
DEPOSIT 100	T16	READY	270	0	READY	260	0
BALANCE	T13	READY	270	0	READY	260	0
LOGOUT	T10	IDLE	270	0	IDLE	260	0
LOGIN 140	Т7	IDLE	270	0	IDLE	260	0

As from the above table we can see that expected results are not matched with produced result. Hence the test case is **FAILED**. The contradicting operations are highlighted in **RED** color in the above table. The transition **76** and **721** have bug in the source code. The cause of failure is given later in this report in the section of Cause of Failure.

TESTCASE#2

INCORRECT PRODUCED OUTPUT AND EXPECTED CORRECT OUTPUT

		Ех	pected	Result	Produced Result			
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt	
OPEN 100 123 190	T1	IDLE	190	0	IDLE	190	0	
LOGIN 100	T2	CHECK PIN	190	0	CHECK PIN	190	0	
PIN 123	Т8	OVERDRAWN	190	0	OVERDRAWN	190	0	
BALANCE	T22	OVERDRAWN	190	0	OVERDRAWN	190	0	
LOGOUT	Т9	IDLE	190	0	IDLE	190	0	
LOGIN 135	Т7	IDLE	190	0	IDLE	190	0	

		Ех	Result	Produced Result			
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
LOGIN 100	T2	CHECK PIN	190	0	CHECK PIN	190	0
PIN 123	Т8	OVERDRAWN	190	0	OVERDRAWN	190	0
DEPOSIT 10	T21	OVERDRAWN	<mark>190</mark>	0	READY	200	0
DEPOSIT 10	T21	OVERDRAWN	<mark>190</mark>	0	READY	210	0
LOCK 321	T20	LOCKED	190	0	LOCKED	210	0
UNLOCK 321	T19	OVERDRAWN	190	0	READY	210	0
DEPOSIT 10	T21	OVERDRAWN	190	0	READY	220	0
DEPOSIT 100	T16	READY	290	0	READY	320	0
WITHDRA W 100	T14	OVERDRAWN	170	0	READY	220	0
BALANCE	T22	OVERDRAWN	170	0	READY	220	0
LOGOUT	Т9	IDLE	170	0	IDLE	220	0
LOGIN 100	T2	CHECK PIN	170	0	CHECK PIN	220	0
PIN 1	T3	CHECK PIN	170	0	CHECK PIN	220	1
LOGOUT	T5	IDLE	170	0	IDLE	220	1
LOGIN 100	T2	CHECK PIN	170	0	CHECK PIN	220	0
PIN 2	Т3	CHECK PIN	170	1	CHECK PIN	220	1
PIN 2	Т3	CHECK PIN	170	2	CHECK PIN	220	2
PIN 2	T6	IDLE	170	2	IDLE	220	3
LOGIN 100	T2	CHECK PIN	170	0	CHECK PIN	220	0

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		Ex	pected	Result	Produced Result		
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
PIN 2	Т3	CHECK PIN	170	1	CHECK PIN	220	1
PIN 123	Т8	OVERDRAWN	170	1	READY	220	1
LOCK 321	T20	LOCKED	170	1	LOCKED	220	1
UNLOCK 321	T19	OVERDRAWN	170	1	READY	220	1
LOCK 321	T20	LOCKED	170	1	LOCKED	220	1
UNLOCK 321	T19	OVERDRAWN	170	1	READY	220	1
DEPOSIT 10	T21	OVERDRAWN	170	1	READY	230	1
LOGOUT	Т9	IDLE	170	1	IDLE	230	1

As from the above table we can see that expected results are not matched with produced result. Hence the test case is **FAILED**. The contradicting operations are highlighted in **RED** color in the above table. The transition **76** and **721** have bug in the source code. The cause of failure is given later in this report in the section of Cause of Failure.

TESTCASE#3

INCORRECT PRODUCED OUTPUT AND EXPECTED CORRECT OUTPUT

	Transi tion	Expected Result			Produced Result		
Function Called		State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
OPEN 100 123 190	T1	IDLE	190	0	IDLE	190	0
LOGIN 100	T2	CHECK PIN	190	0	CHECK PIN	190	0
PIN 123	Т8	OVERDRAWN	190	0	OVERDRAWN	190	0

		Expected Result			Produced Result		
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt
DEPOSIT 100	T16	READY	290	0	READY	290	0
LOGOUT	T10	IDLE	290	0	IDLE	290	0
LOGIN 100	T2	CHECK PIN	290	0	CHECK PIN	290	0
PIN 2	Т3	CHECK PIN	290	1	CHECK PIN	290	1
PIN 123	T18	READY	290	1	READY	290	1
WITHDRA W 100	T14	OVERDRAWN	170	1	OVERDRAWN	170	1
DEPOSIT 10	T21	OVERDRAWN	170	1	OVERDRAWN	160	1
LOCK 321	T20	LOCKED	170	1	LOCKED	160	1
UNLOCK 321	T19	OVERDRAWN	170	1	OVERDRAWN	160	1
DEPOSIT 100	T16	READY	270	1	READY	260	1
DEPOSIT 10	T12	READY	280	1	READY	270	1
BALANCE	T13	READY	280	1	READY	270	1
LOCK 321	T4	LOCKED	280	1	LOCKED	270	1
UNLOCK 321	T17	READY	280	1	READY	270	1
WITHDRA W 100	T14	OVERDRAWN	160	1	OVERDRAWN	150	1
DEPOSIT 100	T16	READY	260	1	READY	250	1
WITHDRA W 10	T11	READY	250	1	READY	240	1

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		Expected Result			Produced Result			
Function Called	Transi tion	State After Transition	Bala nce	No. of Unsuccessful Attempt	State After Transition	Bala nce	No. of Unsuccessful Attempt	
DEPOSIT 10	T12	READY	260	1	READY	250	1	
WITHDRA W 10	T11	READY	250	1	READY	240	1	
LOCK 321	T4	LOCKED	250	1	LOCKED	240	1	
UNLOCK 321	T17	READY	250	1	READY	240	1	
DEPOSIT 10	T12	READY	260	1	READY	250	1	
WITHDRA W 100	T14	OVERDRAWN	140	1	OVERDRAWN	130	1	
LOGOUT	Т9	IDLE	140	1	IDLE	130	1	
LOGIN 100	T2	CHECK PIN	140	0	CHECK PIN	130	0	
PIN 123	Т8	OVERDRAWN	140	0	OVERDRAWN	130	0	
LOGOUT	Т9	IDLE	140	0	IDLE	130	0	

As from the above table we can see that expected results are not matched with produced result. Hence the test case is **FAILED**. The contradicting operations are highlighted in **RED** color in the above table. The transition **76** and **721** have bug in the source code. The cause of failure is given later in this report in the section of Cause of Failure.

CAUSE OF FAILURE

TRANSITION - **T6**

According to given Figure 1: EFSM of *Account* class T6 will be executed if number of unsuccessful login attempts is 2. It will be moved to IDLE state, so the number of unsuccessful attempts will be 2 after this transition but in the given code it is being incremented always if given pin is incorrect. EFSM figure does not mention about incrementing number of attempts in transition T6. The below code is for *pin()* method from *account* class.

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```
/**
* provides pin # (parameter x)
* @param x PIN
* @return the value returned by the method 0 --> Successful, -1 --> ERROR
public final int pin(int x) {
    if (x4 != 1) { // Check if the current state is CHECK PIN
        return -1;
    }
    if (x == x3) {
        x4 = 2;
        return 0;
    } else {
        x9++;
    if (x9 >= x0) {
        x4 = 0;
    return -1;
}
```

Figure 3: pin() method from account class

TRANSITION - T21

According to given Figure 1: EFSM of *Account* class T21 will be executed if it is already in OVERDRAWN state while depositing an amount such that after deposit the final balance will be less than \$200. In such situation a \$10 fee will be imposed but in the given code a \$20 fee (stored in constant variable named x6) has been imposed here. The below code is for *variable declaration of* x6, account() constructor for variable initialization with \$20 fee and deposit() method of account class and the portion of the and the line is highlighted that has the bug.

```
/**
 * Transaction Fee
 */
private int x6;
```

Figure 4:Variable declaration of x6

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```
/**
 * Constructor for parameters initialization
 */
public account() {
    x2 = 0;
    x4 = -1;
    x6 = 20;
    x7 = 200;
    x9 = 0;
    x0 = 3;
}
```

Figure 5: account() constructor for variable initialization with \$20 fee

```
/**
* deposits amount d to the account
* @param d Amount to deposit
* @return the value returned by the method 0 --> Successful, -1 --> ERROR
*/
public final int deposit(int d) {
    if (x4 != 2) {
        return -1;
    }
    if (x2 == 1) {
        return -1;
    }
    if ((x1 + d < x7) \&\& (d > 0)) {
        x1 = x1 + d - x6; // TODO BUG
        return 0;
    } else {
        if (d > 0) {
            x1 = x1 + d;
            return 0;
        }
    return -1;
}
```

Figure 6: deposit() method of account class

INSTRUCTION TO EXECUTE TEST CASES

The submission is given as zip file named "CS589ProjectSubmission_Sukanta.zip". After extracting the zip, there are 6 items in the folder:

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•	Account class	\rightarrow	account.java
•	Driver class	\rightarrow	TestDriver.java
•	Test suit	\rightarrow	TS.txt
•	Test suite checker	\rightarrow	test_suite_checker.exe
•	Test Executable jar file	\rightarrow	TestDriver_Sukanta.jar
•	Test Executable exe file	\rightarrow	TestDriver_Sukanta.exe
•	Project Report	\rightarrow	Project Report Sukanta.pdf

MINIMUM SYSTEM REQUIREMENT

To run the test, suit a system is required with JRE installed of minimum version of JRE SE 1.7.0.

VALIDATE TEST SUITE

To validate the test case run "test_suite_checker.exe" and press enter key to continue. It will verify the test suit and if there are no error exits, we can proceed with testing.



Figure 7:Test suite checker

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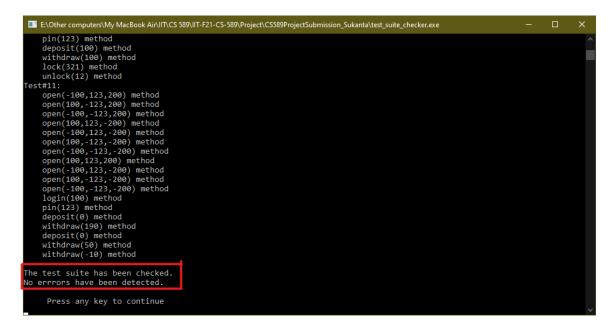


Figure 8: Test suite checker with no errors detected

There are no errors in the test suit, so we can start with testing.

EXECUTION ON WINDOWS SYSTEM

The test driver can be run on Windows machine using the following method:

1. Open command prompt in the folder location and execute the following command

"java -jar TestDriver_Sukanta.jar"

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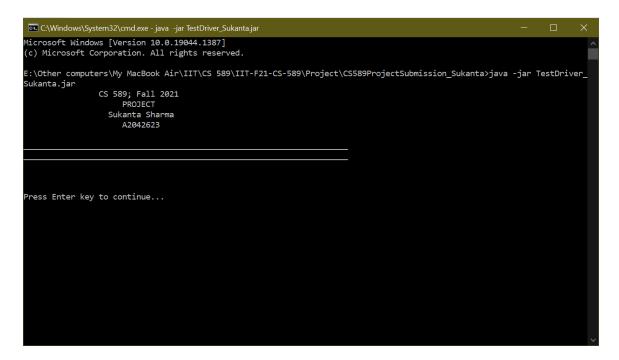


Figure 9:Run Executable JAR file in Windows

2. Run "TestDriver_Sukanta.exe"

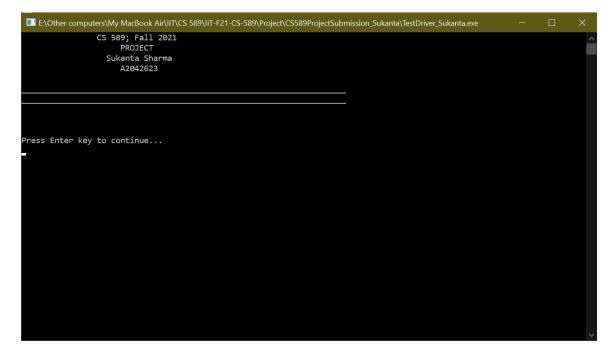


Figure 10: Run executable exe file in Windows

Press enter key to continue.

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Figure 11: Test Environment Menu in Windows

EXECUTION ON MAC/NON-WINDOWS SYSTEM

Open terminal in the same folder and run the following command

"java -jar TestDriver_Sukanta.jar"

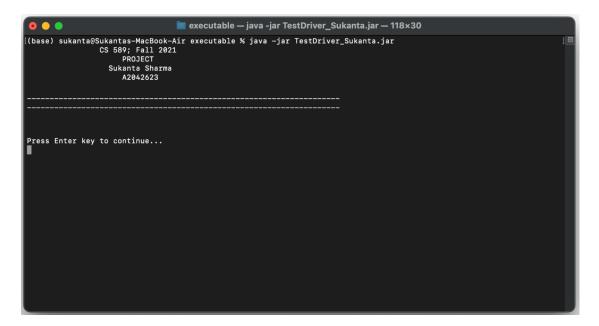


Figure 12:Run executable JAR in MAC

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Press enter key to continue

Figure 13:Test environment menu in MAC

CONCLUSION AND FUTURE SCOPE

The implementation of testing environment was second most time-consuming part after the test case writing. Testing-oriented methods helped me to get the values of variables at any given point in time. The environment gives the performed test case and results at each step. This part we have semi-automated to speed up with the testing and verification part. To automate more, we can create a data set with operation and expected results and we can design a testing environment such that it accepts the given dataset as input, and it can compare the produced results with the given expected results and prompt for failed/passed test cases. Although, we need to still investigate the code to detect and fix the bug if any.