

```
1 package asn3;
2
3 import java.util.*;
4
5 public class Customer implements Validation {
6
7     //attributes mentioned in the question
8     //Can be accessed only by instance methods
9
10    private String name;
11    private String username;
12    private String password;
13    private int age;
14    private String ssn;
15    private String address;
16    private String email;
17    private long phone;
18    private double balance;
19
20    //user defined variables
21    private Scanner sc = new Scanner(System.in);
22    public boolean login = false;
23    private double deposit;
24    private double withdraw;
25
26    @Override
27    public void validateSSN(String ssn) {
28        if(ssn.length() != 9) {
29            System.out.println("INVALID SSN. It should contain 9 digits");
30        }
31        else {
32            try {
33                long ssnNumber = Long.parseLong(ssn);
34                System.out.println("VALID SSN");
35            }
36            catch(Exception e) {
37                System.out.println(e.getMessage());
38                System.out.println("INVALID SSN. It should contain numeric values only");
39            }
40        }
41    }
42}
43
44    @Override
45    public void validateAge(int age) {
46        if(age <= 18) {
47            System.out.println("INVALID AGE");
48            System.out.println("Age must be greater than 18 years");
49        }
50        else {
51            System.out.println("VALID AGE");
52        }
53
54    public void login() {
55        System.out.println("-----LOGIN PAGE-----");
56        System.out.println("*****Welcome to XYZ Bank Ltd. *****");
57    }
```

```
58     System.out.println("Do you want to login?");
59     System.out.println("Type yes/no");
60     String ch = sc.nextLine();
61
62     if(ch.equals("yes")) {
63         System.out.println("Enter username: ");
64         username = sc.nextLine();
65         System.out.println("Enter password: ");
66         password = sc.nextLine();
67         login = true;
68         System.out.println("User logged in successfully\n");
69     }
70     else {
71         System.out.println("Close the login window");
72         System.exit(0);
73     }
74 }
75
76 public void deposit() {
77     if(login) {
78         System.out.println("Enter the amount you want to deposit: ");
79         deposit = sc.nextDouble();
80         sc.nextLine();
81         balance += deposit;
82     }
83 }
84
85 public void withdrawal() {
86     if(login) {
87         System.out.println("Enter the amount you want to withdraw: ");
88         withdraw = sc.nextDouble();
89         sc.nextLine();
90         balance -= withdraw;
91     }
92 }
93
94 public void checkBalance() {
95     if(login)
96         System.out.print("The current balance in your account is: " + balance);
97     System.out.println();
98 }
99
100 public void editProfile() {
101     if(login) {
102         System.out.println("PROFILE DETAILS");
103         System.out.println("Name: " + name);
104         System.out.println("Age: " + age);
105         System.out.println("Address: " + address);
106         System.out.println("Email: " + email);
107         System.out.println("Phone: " + phone);
108         System.out.println("SSN: " + ssn);
109
110         System.out.println("\nWant to edit profile?");
111         System.out.println("Type yes/no");
112         String ch = sc.nextLine();
113
114         if(ch.equals("no"))
```

```
115         return;
116     else {
117         while(true) {
118             System.out.println("Select an option to edit: ");
119             System.out.println("1. Name\n2. Age\n3. Address\n4. Email\n5. Phone\n6.
SSN");
120             int c = sc.nextInt();
121             sc.nextLine();
122
123             switch(c) {
124                 case 1:
125                     System.out.println("Enter name: ");
126                     name = sc.nextLine();
127                     break;
128
129                 case 2:
130                     System.out.println("Enter age: ");
131                     age = sc.nextInt();
132                     sc.nextLine();
133                     validateAge(age);
134                     break;
135
136                 case 3:
137                     System.out.println("Enter address: ");
138                     address = sc.nextLine();
139                     break;
140
141                 case 4:
142                     System.out.println("Enter email: ");
143                     email = sc.nextLine();
144                     break;
145
146                 case 5:
147                     System.out.println("Enter phone: ");
148                     phone = sc.nextLong();
149                     sc.nextLine();
150                     break;
151
152                 case 6:
153                     System.out.println("Enter SSN: ");
154                     ssn = sc.nextLine();
155                     validateSSN(ssn);
156                     break;
157
158                 default:
159                     System.out.println("WRONG CHOICE!!!\"");
160                     break;
161             }
162
163             System.out.println("Want to continue editing?\"");
164             System.out.println("Press 1 to continue\nPress 0 to exit\"");
165             int choice = sc.nextInt();
166             sc.nextLine();
167             if(choice == 1)
168                 continue;
169             else {
170                 System.out.println("EXIT from Edit Profile");
```

```
171                     break;
172                 }
173             }
174         }
175     }
176 }
177 }
178 public void changePassword() {
179     if(login) {
180         System.out.println("Enter current password: ");
181         String current = sc.nextLine();
182
183         if(password.equals(current)) {
184             System.out.println("Enter new password: ");
185             String newPass = sc.nextLine();
186             System.out.println("Confirm new password: ");
187             String confirm = sc.nextLine();
188             if(newPass.equals(confirm)) {
189                 password = confirm;
190                 System.out.println("PASSWORD CHANGED");
191             }
192             else {
193                 System.out.println("Password doesn't match");
194                 System.out.println("Call the function again");
195             }
196         }
197     }
198     else {
199         System.out.println("WRONG PASSWORD\nUnauthorised user");
200         System.out.println("Call the function again");
201     }
202 }
203 }
204 }
205
206
207
208 }
209 }
```

```
1 package asn3;
2
3 public interface Validation {
4     public void validateSSN(String ssn);
5     public void validateAge(int age);
6 }
7
```

```
1 package asn3;
2
3 import java.util.*;
4
5 public class Bank {
6
7     public static void main(String[] args) {
8         // TODO Auto-generated method stub
9         Scanner sc = new Scanner(System.in);
10
11         Customer c = new Customer();
12         c.login();
13
14         /*this label is used as when user exits he/she is directed to the login page,
15          * so after they log in, they must be directed to the menu so that they can
16          * operate their account
17          */
18
19         repeat:
20         while(true) {
21             System.out.println("Select any one option: ");
22             System.out.println("1. Deposit\n2. Withdrawal\n3. Check Balance\n4. Edit Profile
23 \n5. Change Password\n6. EXIT");
24             int ch = sc.nextInt();
25             sc.nextLine();
26
27             switch(ch) {
28
29                 case 1:
30                     c.deposit();
31                     break;
32
33                 case 2:
34                     c.withdrawal();
35                     break;
36
37                 case 3:
38                     c.checkBalance();
39                     break;
40
41                 case 4:
42                     c.editProfile();
43                     break;
44
45                 case 5:
46                     c.changePassword();
47                     break;
48
49                 case 6:
50                     break;
51
52                 default:
53                     System.out.println("WRONG CHOICE!!!!");
54                     break;
55             }
56
57             System.out.println("Do you want to continue accessing the Bank application?");
```

```
57     System.out.println("Type yes/no");
58     String s = sc.nextLine();
59
60     if(s.equals("yes"))
61         continue;
62     else {
63         c.login = false;
64         System.out.println("*****EXIT*****");
65         System.out.println("Press Enter to redirect to the login page");
66         sc.nextLine();
67         c.login();
68         continue repeat;
69     }
70 }
71 }
72 }
73
74 }
75 }
```

Problems Javadoc Declaration Console

```
<terminated> Bank [Java Application] C:\Users\SUBHASHREE\.p2\pool\plugins\org.eclipse.jdt.core\src\Bank.java
-----LOGIN PAGE-----
*****Welcome to XYZ Bank Ltd. *****
Do you want to login?
Type yes/no
yes
Enter username:
subhashree
Enter password:
45678
User logged in successfully

Select any one option:
1. Deposit
2. Withdrawal
3. Check Balance
4. Edit Profile
5. Change Password
6. EXIT
4
PROFILE DETAILS
Name: null
Age: 0
Address: null
Email: null
Phone: 0
SSN: null

Want to edit profile?
Type yes/no
yes
Select an option to edit:
1. Name
2. Age
3. Address
4. Email
5. Phone
```

```
<terminated> Bank [Java Application] C:\Users\SUBHASHREE\p2\po  
Select an option to edit:  
1. Name  
2. Age  
3. Address  
4. Email  
5. Phone  
6. SSN  
2  
Enter age:  
17  
INVALID AGE  
Age must be greater than 18 years  
Want to continue editing?  
Press 1 to continue  
Press 0 to exit  
1  
Select an option to edit:  
1. Name  
2. Age  
3. Address  
4. Email  
5. Phone  
6. SSN  
2  
Enter age:  
22  
VALID AGE  
Want to continue editing?  
Press 1 to continue  
Press 0 to exit  
1  
Select an option to edit:  
1. Name  
2. Age  
3. Address  
4. Email  
5. Phone
```

Problems Javadoc Declaration Console

```
<terminated> Bank [Java Application] C:\Users\SUBHASHREE\.p2\pool\plugins\org.eclips
gs
tul
.i
er
us
an:
si
Select an option to edit:
1. Name
2. Age
3. Address
4. Email
5. Phone
6. SSN
6
Enter SSN:
12345
INVALID SSN. It should contain 9 digits
Want to continue editing?
Press 1 to continue
Press 0 to exit
1
Select an option to edit:
1. Name
2. Age
3. Address
4. Email
5. Phone
6. SSN
6
Enter SSN:
1234abcde
For input string: "1234abcde"
INVALID SSN. It should contain numeric values only
Want to continue editing?
Press 1 to continue
Press 0 to exit
1
Select an option to edit:
1. Name
2. Age
3. Address
4. Email
```

Problems Javadoc Declaration Console

```
<terminated> Bank [Java Application] C:\Users\SUBHASHREE\.p2\pool\plugins\org.eclipse.jdt.core\src\Bank.java:10: error: cannot find symbol
    enter SSN:
          ^
  symbol:   variable SSN
  location: class Bank
1234abcde
For input string: "1234abcde"
INVALID SSN. It should contain numeric values only
Want to continue editing?
Press 1 to continue
Press 0 to exit
1
Select an option to edit:
1. Name
2. Age
3. Address
4. Email
5. Phone
6. SSN
6
Enter SSN:
123456789
VALID SSN
Want to continue editing?
Press 1 to continue
Press 0 to exit
0
EXIT from Edit Profile
Do you want to continue accessing the Bank application?
Type yes/no
no
*****EXIT*****
Press Enter to redirect to the login page

-----LOGIN PAGE-----
*****Welcome to XYZ Bank Ltd. *****
Do you want to login?
Type yes/no
yes
Enter username:
```

```
1 package asn3;
2
3 import java.util.*;
4
5 abstract class Account{
6     String accountId;
7     String description;
8     double minimumBalance;
9
10    abstract void display();
11}
12}
13
14 class Current extends Account{
15
16    Current(){
17        super.minimumBalance = 0;
18    }
19
20    @Override
21    void display() {
22        System.out.println("Account Id: " + super.accountId);
23        System.out.println("Description: " + super.description);
24        System.out.println("Minimum Balance: " + super.minimumBalance);
25    }
26}
27}
28
29 class Saving extends Account{
30
31    Saving(){
32        super.minimumBalance = 500;
33    }
34
35    @Override
36    void display() {
37        System.out.println("Account Id: " + super.accountId);
38        System.out.println("Description: " + super.description);
39        System.out.println("Minimum Balance: " + super.minimumBalance);
40    }
41}
42
43 public class AccountTest {
44
45    public static void main(String[] args) {
46        // TODO Auto-generated method stub
47        Scanner sc = new Scanner(System.in);
48
49        Current c = new Current();
50        Saving s = new Saving();
51
52        System.out.println("Current account details: ");
53        System.out.println("Enter account id: ");
54        c.accountId = sc.nextLine();
55        System.out.println("Enter description of current account:");
56        c.description = sc.nextLine();
57    }
}
```

```
58     System.out.println("Saving account details: ");
59     System.out.println("Enter account id: ");
60     s.accountId = sc.nextLine();
61     System.out.println("Enter description of saving account:");
62     s.description = sc.nextLine();
63
64     System.out.println("CURRENT ACCOUNT DETAILS");
65     c.display();
66     System.out.println();
67     System.out.println("SAVING ACCOUNT DETAILS");
68     s.display();
69
70 }
71
72 }
73
```

```
Problems Javadoc Declaration Console X
 AccountTest [Java Application] C:\Users\SUBHASHREE\p2\p
Current account details:
Enter account id:
current10001
Enter description of current account:
min balance is 0
Saving account details:
Enter account id:
saving20001
Enter description of saving account:
min balance is 500
CURRENT ACCOUNT DETAILS
Account Id: current10001
Description: min balance is 0
Minimum Balance: 0.0

SAVING ACCOUNT DETAILS
Account Id: saving20001
Description: min balance is 500
Minimum Balance: 500.0
```