

1. Sample Input & Output with Explanation

User: Admin

At the main page, the user has options to choose which page to enter. For an administrator, the page code 1 is entered. The administrator is then directed into the admin sign in page, he or she has to enter the designated username and password in order to gain access to the admin management page. In the page, there are 5 options for the administrator to choose ranging from creating new customer account, view all profiles, search for specific customer account and transaction as well as logging out.

```
*****Welcome to APU Online Banking Main Page*****

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit
Enter the main menu code here:1

*****Welcome to Admin Management Page*****
Enter your administrator username: APUAdmin
Enter your administrator password: 12345

*****Admin Management Page*****

Please select the below option:

[1] Create New Customer Account

[2] View All Profiles

[3] Search for Specific Customer Account

[4] Search for Specific Customer Transaction

[5] Log Out
Please key in the option code: |
```

Once the administrator entered the number 1 option code on the admin management page. He or she is directed to the 'create new account for customer' page. The administrator then has to key in the number of customer's record that he or she wants to keep. In this sample, three records are entered. Later, the administrator has to type in the three new customer's details (i.e. username, password, name and identification number) in order to create new accounts or profiles. After entering the customers' details, a notification of 'account successfully created' appears and is directed to the main page again.

Please key in the option code: 1

*****Create New Account for Customer*****

Please key in the number of customer's record that you want to keep: 3
Please create customer's login ID: lam771994
Please create customer's password: 12345
Please enter customer's name: Lam YX
Please enter customer's identification no.: 771994
Please create customer's login ID: megan1020
Please create customer's password: 09876
Please enter customer's name: Megan XY
Please enter customer's identification no.: 10200
Please create customer's login ID: joseph3344
Please create customer's password: 33445566
Please enter customer's name: Joseph TH
Please enter customer's identification no.: 567899

Account successfully created

*****Welcome to APU Online Banking Main Page*****

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit

Enter the main menu code here:|

In order to select other operation, the administrator has to re-enter his or her username and password for security purposes. The administrator is then able to view all profiles when the option code 2 is entered on the admin management page. The sample list of the new customers' details is shown as below. When the administrator wants to search for the profile of a specific

customer, option code 3 on the admin management option can be entered. Later on, any details of the specific customer has to be keyed in so the system can read it from the text file created. In the sample below, the customer's login id is entered and her profile is shown after that. Furthermore, to search for the specific customer's transaction, the former steps have to be followed, however, option 4 has to be selected, so the transaction of the specific customer can be shown as the screenshot below.

*****Welcome to Admin Management Page*****

Enter your administrator username: APUAdmin

Enter your administrator password: 12345

*****Admin Management Page*****

Please select the below option:

[1] Create New Customer Account

[2] View All Profiles

[3] Search for Specific Customer Account

[4] Search for Specific Customer Transaction

[5] Log Out

Please key in the option code: 2

*****All Customers' Profiles*****

| Customer ID: | Customer Name: | Customer Identification No: |
|--------------|----------------|-----------------------------|
| lam771994 | Lam YX | 771994 |
| megan1020 | Megan XY | 10200 |
| joseph3344 | Joseph TH | 567899 |

```

*****Welcome to Admin Management Page*****

Enter your administrator username: APUAdmin
Enter your administrator password: 12345

*****Admin Management Page*****

Please select the below option:

[1] Create New Customer Account

[2] View All Profiles

[3] Search for Specific Customer Account

[4] Search for Specific Customer Transaction

[5] Log Out

Please key in the option code: 3

*****Search for Specific Customer's Profile*****

Enter any customer detail:lam771994

Customer ID:      Customer Name:  Customer Identification No:
lam771994         Lam YX          771994

```

```

*****Welcome to Admin Management Page*****

Enter your administrator username: APUAdmin
Enter your administrator password: 12345

*****Admin Management Page*****

Please select the below option:

[1] Create New Customer Account

[2] View All Profiles

[3] Search for Specific Customer Account

[4] Search for Specific Customer Transaction

[5] Log Out

Please key in the option code: 4

*****View Transaction*****

Enter the customer ID:lam771994

Customer ID:      Customer Name:  Deposit Amount:  Withdrawal Amount:  Balance:
lam771994         Lam YX          1000.0          0.0                1000.0
lam771994         Lam YX          1000.0          500.0              500.0

```

User: Customer

Once the administrator has created a new account for the new customer, the new customer will receive his or her online banking username and password through his or her email. The new

customer is then allowed to visit the main page of APU online banking and enter the menu code 2 to enter into the customer page. He or she is required to enter his or her username and password to access the operations in the customer page as illustrated below.

```
*****Welcome to APU Online Banking Main Page*****

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit

Enter the main menu code here:2

*****Welcome to Customer Page*****

Enter your login ID: lam771994|
Enter your password: 12345

Please select the below option:

[1] Deposit OR Withdraw Money

[2] View Transactions

[3] Log Out

Please key in the option code:
```

When the customer wants to deposit or withdraw money, he or she has to enter option code 1. After that, the username and the name of the customer is required. Subsequently, the customer's personal and balance details are shown. If the customer desires to deposit money, option 'A' has to be entered and then the amount to be deposit is required to be typed in. In the sample below, RM 1000 is entered and the transaction details are demonstrated. On the other hand, when the customer wants to withdraw money, option 'B' has to be chosen. Looking at the

sample below, RM500 is withdrawn and the balance is reduced as the deposit amount is deducted by the withdrawn amount.

```
Please select the below option:

[1] Deposit OR Withdraw Money

[2] View Transactions

[3] Log Out

Please key in the option code: 1

*****Deposit or Withdraw Money*****

Please enter your login ID: lam771994
Please enter your name: Lam YX
Customer ID:      Customer Name:  Balance:
lam771994          Lam YX          0

Please select the below option:

[A] Deposit money

[B] Withdraw money

[C] Exit

Please enter the option above: A
Please enter the amount that you would like to deposit: 1000

Customer ID:      Customer Name:  Deposit Amount:  Withdrawal Amount:  Balance:
lam771994          Lam YX          1000.0          0.0              1000.0

Please select the below option:

[A] Deposit money

[B] Withdraw money

[C] Exit

Please enter the option above: B
Please enter the amount that you would like to withdraw: 500

Customer ID:      Customer Name:  Deposit Amount:  Withdrawal Amount:  Balance:
lam771994          Lam YX          1000.0          500.0             500.0
```

Once the customer enters option 'C' to exit, he or she will be directed to the main page. When the customer wants to view his or her transactions, he or she has to re-enter the customer page with his or her username and password and choose option 2. When the customer is on the view transaction page, he or she has to re-enter his or her login id to access his or her transaction as shown below. After viewing the transaction, the customer is directed to the main page again.

```

Please select the below option:

[A] Deposit money

[B] Withdraw money

[C] Exit
Please enter the option above: C
*****Welcome to APU Online Banking Main Page*****

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit
Enter the main menu code here:2
*****Welcome to Customer Page*****

Enter your login ID: lam771994
Enter your password: 12345

Please select the below option:

[1] Deposit OR Withdraw Money

[2] View Transactions

[3] Log Out
Please key in the option code: 2
*****View Transaction*****

Enter your customer ID:lam771994

Customer ID:      Customer Name:  Deposit Amount:  Withdrawal Amount:  Balance:
lam771994         Lam YX          1000.0          0.0                1000.0
lam771994         Lam YX          1000.0          500.0              500.0

*****Welcome to APU Online Banking Main Page*****

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit
Enter the main menu code here:

```

Exit or Log Out

Selecting the page code 3 will allow users like the administor and the customer to exit the online banking main page. A notification is printed after the quitting the main page.

```
*****Welcome to APU Online Banking Main Page*****
```

```
Please key in the page code:
```

```
[1] Admin Page
```

```
[2] Customer Page
```

```
[3] Quit
```

```
Enter the main menu code here:3
```

```
***Exit Successful. Thank you for using our service***  
|
```

After logging in to the admin management page, the administrator can select option 5 to log out of the page and the system will be ended.

```
*****Welcome to Admin Management Page*****
```

```
Enter your administrator username: APUAdmin  
Enter your administrator password: 12345
```

```
*****Admin Management Page*****
```

```
Please select the below option:
```

```
[1] Create New Customer Account
```

```
[2] View All Profiles
```

```
[3] Search for Specific Customer Account
```

```
[4] Search for Specific Customer Transaction
```

```
[5] Log Out
```

```
Please key in the option code: 5  
>>>
```

The log out method for the customer page is the same as the admin management page as shown below.


```

*****Welcome to Customer Page*****

Enter your login ID: lam771994
Enter your password: 12345

Please select the below option:

[1] Deposit OR Withdraw Money

| [2] View Transactions

[3] Log Out

Please key in the option code: 3
>>>

```

Lastly, when the customer wants to exit the ‘deposit or withdraw money’ page, he or she can enter the option ‘C’. He or she is then directed to the online banking main page.

```

*****Deposit or Withdraw Money*****

Please enter your login ID: lam771994
Please enter your name: Lam YX
Customer ID:      Customer Name:  Balance:
lam771994          Lam YX          0

Please select the below option:

[A] Deposit money

[B] Withdraw money

[C] Exit

Please enter the option above: C

*****Welcome to APU Online Banking Main Page*****

|

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit

Enter the main menu code here:

```

Errors

When invalid page code is entered, the user is directed back to the main page.

```
*****Welcome to APU Online Banking Main Page*****

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit

Enter the main menu code here:0

*****Welcome to APU Online Banking Main Page*****

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit

Enter the main menu code here: 
```

When the administrator enters either wrong username or password, a notification is printed and directed back to the main page.

```
*****Welcome to Admin Management Page*****

Enter your administrator username: lam7794
Enter your administrator password: 12234
You entered the wrong username or password. Please try again

*****Welcome to APU Online Banking Main Page*****

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit

Enter the main menu code here: 
```

In the admin management page, when wrong option code is entered, a notification is provided and will prompt the administrator to enter the correct code again.

*****Welcome to Admin Management Page*****

Enter your administrator username: APUAdmin
Enter your administrator password: 12345

*****Admin Management Page*****

Please select the below option:

[1] Create New Customer Account

[2] View All Profiles

[3] Search for Specific Customer Account

[4] Search for Specific Customer Transaction

[5] Log Out

Please key in the option code: 6
You entered wrong option code. Please try again.
Please key in the option code:

While the customer is trying to log in to the customer page and entered either wrong login ID or password, a notification is printed and re-directed him or her to the main page.

*****Welcome to Customer Page*****

Enter your login ID: lam7794
Enter your password: 12345

Incorrect login ID or password. Please try again

*****Welcome to APU Online Banking Main Page*****

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit

Enter the main menu code here:

When the customer enters the wrong code on the customer page, he or she will be directed to the main page and re-log in to enter the right option code.

```
*****Welcome to Customer Page*****

Enter your login ID: lam771994
Enter your password: 12345

Please select the below option:

[1] Deposit OR Withdraw Money

[2] View Transactions

[3] Log Out

Please key in the option code: 4

*****Welcome to APU Online Banking Main Page*****

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit

Enter the main menu code here: 
```

When the customer wants to view his or her transaction and enter the wrong username, there is no transaction shown and is directed to the main page.

```
*****View Transaction*****

Enter your customer ID: lam7794

Customer ID:      Customer Name:  Deposit Amount:  Withdrawal Amount:      Balance:

*****Welcome to APU Online Banking Main Page*****

Please key in the page code:

[1] Admin Page

[2] Customer Page

[3] Quit

Enter the main menu code here: 
```