# PROG 2100 - Assignment 2

# Console Applications: ATM Machine

Assignment Value: *30*% of the overall course mark.

Due Date: **Part A (25th Oct) and Part B (08th Nov)** (See the due date designated on Assignment 2 on Brightspace.)

Late submissions will receive the standard late submission penalty as stated in the course outline.

#### Assignment Instructions:

Use IDE to create console applications (C++ files) in which you’ll code the answer for each of the following problems. **You must create a C++ file for this assignment.**

#### Submissions:

When you are finished, commit your all files (C++ format) to GitHub as your submission for Assignment 2. Also, share the screenshot of the outcome on the word document file name like **[YourName]\_PROG2100\_Assignment2\_Output\_[ScenarioX].docx**.

#### Evaluation:

To ensure the greatest chance of success on this assignment, be sure to check the marking rubric contained at the end of this document or in Brightspace. The rubric contains the criteria your instructor will be assessing when marking your assignment.

## Program 1 – ATM Machine

In this assignment you will create a program that allows a user to do the following:

1. Create a bank account by supplying a user id and password.
2. Login using their id and password.
3. Quit the program.

Now if login was successful the user will be able to do the following:

1. Withdraw money.
2. Deposit money.
3. Request balance.
4. Quit the program.

If login was not successful (for example the id or password did not match) then the user will be taken back to the introduction menu.

This is what your program in action will look like:

Hi! Welcome to Mr. Zamar’s ATM Machine!

Please select an option from the menu below:

l -> Login

c -> Create New Account

q -> Quit

> **l**

Please enter your user id: **12**

Please enter your password **2345**

**\*\*\*\*\*\*\*\* LOGIN FAILED! \*\*\*\*\*\*\*\***

Please select an option from the menu below:

l -> Login

c -> Create New Account

q -> Quit

> **c**

Please enter your user name: **12**

Please enter your password: **2345**

Thank You! Your account has been created!

l -> Login

c -> Create New Account

q -> Quit

> **l**

Please enter your user id: **12**

Please enter your password: **2345**

Access Granted!

d -> Deposit Money

w -> Withdraw Money

r -> Request Balance

> **d**

Amount of deposit: $**20**

d -> Deposit Money

w -> Withdraw Money

r -> Request Balance

> **r**

Your balance is $20.

d -> Deposit Money

w -> Withdraw Money

r -> Request Balance

> **w**

Amount of withdrawal: $2.5

d -> Deposit Money

w -> Withdraw Money

r -> Request Balance

> r

Your balance is $17.5.

d -> Deposit Money

w -> Withdraw Money

r -> Request Balance

> **q**

Thanks for stopping by!

Project will require you to complete the code found on this page.

// CODE STARTS HERE

#include <iostream.h>

#include <stdlib.h>

*// function prototypes*

void **printIntroMenu**();

void **printMainMenu**();

void **start**();

void login();

void createAccount();

// global variable (use this variable to store the user’s menu selection)

char menuInput;

*// the main function*

int **main**()

{

// TO WRITE A WELCOME MESSAGE HERE

// call the function start

start();

return 0;

}

void **printIntroMenu**()

{

// WRITE CODE HERE

}

void **printMainMenu**()

{

// WRITE CODE HERE

}

void **start**()

{

// EXPLANATION OF CODE THAT GOES HERE IS BELOW

}

void createAccount()

{

// PHASE 2

}

void login()

{

// PHASE 2

}

// CODE ENDS HERE

The function **printIntroMenu()** displays the following:

Please select an option from the menu below:

l -> Login

c -> Create New Account

q -> Quit

>

The function **printMainMenu()** displays the following menu:

d -> Deposit Money

w -> Withdraw Money

r -> Request Balance

q -> Quit

>

The function **start()** does the following:

1. Displays the following message, “Please select an option from the menu below: ”
2. Displays the introduction menu. Do this by calling the function you created earlier, **printIntroMenu()**
3. Program halts and waits for the user to make their selection. Use the cin >> function to accomplish this step.
4. Now use a switch statement to do the following:

If the user types the character ‘l’ then the function *login()* is called

If the user types the character ‘c’ then the function *createAccount()* is called.

If the user types ‘q’ your program will terminate by calling the function *exit(0)*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Program 1 – ATM Machine** | | |  | |  |  | |  | |
| **Criteria** | | **Insufficient (0 pts)** | **Needs Development**  **(1 pt)** | | **Sufficient (3 pts)** | **Excellent (6 pts)** | | **Marks** | |
| **Able to implement C++ Basic & flow control** | | Little to no effort was made or contains too many errors/omissions. | A reasonable effort was made, but there are multiple areas for improvement. | | A good effort was made, but at least one error or omission exists. | A excellent effort was made with no error and missing requirement. | | /6 | |
| **Able to implement C++ concepts exception handling, Header files, comments** | | Little to no effort was made or contains too many errors/omissions. | A reasonable effort was made, but there are multiple areas for improvement. | | A good effort was made, but at least one error or omission exists. | A excellent effort was made with no error and missing requirement. | | /6 | |
| **Able to create reusable components like printIntroMenu() & printMainMenu** | | Little to no effort was made or contains too many errors/omissions. | A reasonable effort was made, but there are multiple areas for improvement. | | A good effort was made, but at least one error or omission exists. | A excellent effort was made with no error and missing requirement. | | /6 | |
| **Able to implement to all given requirements, and create feasible business logic** | | Little to no effort was made or contains too many errors/omissions. | A reasonable effort was made, but there are multiple areas for improvement. | | A good effort was made, but at least one error or omission exists. | A excellent effort was made with no error and missing requirement. | | /6 | |
| **Able to give Classroom Presentation & prepare GitHub README File** | | Little to no effort was made or contains too many errors/omissions. | A reasonable effort was made, but there are multiple areas for improvement. | | A good effort was made, but at least one error or omission exists. | A excellent effort was made with no error and missing requirement. | | /6 | |
|  | | | | | | Total: | | /30 | |
|  |  | | |  |  | |  | |