

## Week 6 Practicum B and Challenge task

**Objectives:** To practice writing programs with functions, pass by reference, function overloading and default parameters. In this practicum 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 (**challenge**):

- 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 Sherine'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!

// CODE STARTS HERE . . . **Required Practicum 7b task**

```
#include <iostream>
#include <cstdlib>
```

*// function prototypes*

```
void printMenu(... sensible args list);
void printMenu(... sensible args list);
void printMenu(... sensible args list);
void start();
void login();
void createAccount();
```

*// global variables (use this variables to store the user's menu selection and*  
*//transaction stage)*  
char menuInput;

*// the main function*

```
int main()
{
    // TO WRITE A WELCOME MESSAGE HERE

    // call the function start
    start();

    return 0;
}
```

```
void printMenu(... sensible args list)
{
    // WRITE CODE HERE
}
```

```
void printMenu(... sensible args list)
{
    // WRITE CODE HERE
}
```

```
void start()
{
    // EXPLANATION OF CODE THAT GOES HERE IS BELOW
}
```

```
void createAccount()
{
    // if customer count is below 5 create otherwise say sorry full house...
}
```

```
void login()
{
    // Check agains records (5 or less customers we have)
}
```

// CODE ENDS HERE FOR THE **Required practicum task**

The function **printIMenu(... sensible args list)** displays the following:

Please select an option from the menu below:

l -> Login  
c -> Create New Account  
q -> Quit

>

The function **printMenu(... sensible args list)** 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, **printMenu(... sensible args list)**
- 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)*
  - Etc. . .
- 5) If login is successful display the transactions menu: use a switch statement to do the following: (**Challenge task**)
  - If the user types the character d call function Deposit Money (pass by ref)
  - If the user types w call function Withdraw Money (pass by ref default par)
  - If the user types r call function Request Balance (pass by ref)
  - Etc. . .

Both practicum and challenge use only C++ material covered to date.