

CSC 215

Procedural Programming with C

Lab #3

Functions

Lab Section

- Write a program that consists of the following functions:
 - A function called ***Power***. It will take two parameters. A base number and a power. Then it will compute the power and return the resulting number. The method signature should look like this:
 - `int Power(int base, int exponent)`
 - A function called ***Factorial***. It will take one parameter. Then it will compute that number's factorial and return the resulting number. The method signature should look like this:
 - `int Factorial(int base)`
 - A main function.
- The main function should do the following:
 - Show a menu to the user.
 1. Calculate Power.
 2. Calculate Factorial.
 3. Exit.
 - Read a number from the user.
 - If it is "1":
 1. Ask the user to type a number and its exponent.
 2. Calculate the power, then show the result.
 3. Return to the menu.
 - If it is "2":
 1. Ask the user to type a number.
 2. Calculate the factorial, then show the result.
 3. Return to the menu.
 - If it is "3":
 1. Show a "Good bye!" message, then close the program.
 - Anything other than that:
 1. Show an error message "ERROR: Incorrect input."
- Show your program to the instructor. Then upload it to LMS under Lab3 Homework.

- Example run:

```
$ ./lab3
=====
1- Calculate Power.
2- Calculate Factorial.
3- Exit.
=====
> 1
=====
Type a number and it's exponent: 3 5
The result of 3^5 = 243
=====
1- Calculate Power.
2- Calculate Factorial.
3- Exit.
=====
> 2
=====
Type a number: 4
The result of 4! = 24
=====
1- Calculate Power.
2- Calculate Factorial.
3- Exit.
=====
> 5
=====
ERROR: Incorrect input.
=====
1- Calculate Power.
2- Calculate Factorial.
3- Exit.
=====
> 3
=====
Good bye!
```

SUBMIT POLICY: -

- Use the follow naming convention: Lab03_ID_FirstName_LastName.c
 - **Example:** Lab03_123456789_Marwan_Almaymoni.c
- Use a comment to write your name and ID at the beginning of the code.
- The Deadline is: 02/03/2015 right before the Lab starts.
- Late submissions will not be accepted.
- Email submissions will not be accepted.
- **-1 Point** for not following the naming convention.
- **-1 Point** for not writing your name and ID in the code inside a comment.
- **-8 Points** if the submitted program didn't work due to syntax errors.
- **-10 Points** for cheating and helping others cheat.