CSC511 – Introduction to C++

Tutorial

1. Write an algorithm to multiply two numbers. Also develop a flowchart to show the algorithm in a graphical context.
2. Write the pseudo code to find the area of a triangle. Also develop a flowchart.

Lab 1 – Welcome to c++.

You will familiarize yourself with DEV C++ IDE and write your very first C++ program.

Task 1

1. Start Dev-C++ IDE program
2. Create a new source file by clicking on toolbar button. Alternatively click on the File menu → New → Source File.
3. If some text is already written remove it.
4. Type the following C++ code. You should write the code exactly as follows: save the file as helloworld.cpp.

```
#include <iostream>
using namespace std;

int main()
{
   cout << "Hello World";
   return 0;
}
```

5. Create a new source file and type the following c++ code which includes comments in your code.

```
/* my second program in C++
   with more comments */

#include <iostream>
using namespace std;

int main ()
{
  cout << "Hello World! ";     // prints Hello
World!
  cout << "I'm a C++ program"; // prints I'm a
C++ program
  return 0;
}
```

```
Hello World! I'm a C++ program
```

6. Write a C++ program that outputs the following text on screen:
   Oh what
   a happy day!
   Oh yes,
   what a happy day!

   Use the manipulator endl where appropriate.

7. The following program contains several errors:

```
*/ Now you should not forget your glasses //
#include <stream>
int main
{
cout << "If this text",
cout >> " appears on your display, ";
cout << " endl;"
cout << 'you can pat yourself on '
<< " the back!" << endl.
return 0;
)
```

Resolve the errors and run the program to test your changes.

8. Write a program that displays the following:

> This is my final year at High School
> Next year I will join University

Challenge Question

9. Write a program that displays data in the following format:

Year	13
First Name	Last Name
Kaushik	Lal
Avinesh	Chandra
Sumeet	Prasad

Task 2

The purpose of this exercise is to produce a catalog of typical syntax errors and error messages that will be encountered by a beginner, and to continue acquainting you with the programming environment. This exercise should leave you with knowledge of what error to look for when given any number of common error messages.

Deliberately introduce errors to the program, compile, record the error and the error message, fix the error, compile again (to be sure you have the program corrected), then introduce another error. Keep the catalog of errors and add program errors and messages to it as you continue through this course.

The sequence of suggested errors to introduce is:

1. Put an extra space between the < and the iostream file name.
2. Omit one of the < or > symbols in the include directive.
3. Omit the int from the int main().
4. Omit or misspell the word main.
5. Omit one of the (), then omit both the ().
6. Continue in this fashion, deliberately misspelling identifiers (cout, system, and so on).
7. Omit one or both of the << in the cout statements; leave off the ending curly brace }.