```
/* CPSC 457 (Winter 2019)
 * Tutorial 1
 * Sina Keshvadi
 *
 * Notes: No error handling!
 */
```

===
Inof

Email = sina.keshvadi1@ucalgary.ca
Link = https://pages.cpsc.ucalgary.ca/~sina.keshvadi1/os/
Assignment will be marked in weekend.
===
Compile and Execute C(C++) Program

1. Open a text editor and write your code.

2. Save the file as hello.c (hello.cpp)

3. Open a command prompt and go to the directory where you have saved the file.

4. Type gcc hello.c (g++ hello.cpp) and press enter to compile your code.

5. If there are no errors in your code, the command prompt will take you to the next
line and would generate a.out executable file.

6. Now, type ./a.out to execute your program.

Note- You can name your output:
        gcc hello.c -o hello
and then run the code by:
        ./hello

===
```cpp
// Hello World Example by c++
#include <iostream>
using namespace std;
int main()
{
        cout << "Hello World!" << endl;
        return 0;
}
```
===
```c
// Hello world by C

#include <stdio.h>
int main()
{
    printf("Hello World!!!\n");

    return 0;
}
```
===

```cpp
// Maximum Data Type
include <iostream>
#include <climits>
using namespace std;
int main()
{
 cout << "Minimum short = " << SHRT_MIN << endl;
 cout << "Maximum short = " << SHRT_MAX << endl;
```

```cpp
  cout << "Minimum unsigned short = 0" << endl;
  cout << "Maximum unsigned short = " << USHRT_MAX << endl;
  cout << "Minimum int = " << INT_MIN << endl;
  cout << "Maximum int = " << INT_MAX << endl;
  cout << "Minimum unsigned int = 0" << endl;
  cout << "Maximum unsigned int = " << UINT_MAX << endl;
  cout << "Minimum long = " << LONG_MIN << endl;
  cout << "Maximum long = " << LONG_MAX << endl;
  cout << "Minimum unsigned long = 0" << endl;
  cout << "Maximum unsigned long = " << ULONG_MAX << endl;
  return(0);
}
=========================================
// Loop by While
#include <iostream>
using namespace std;
int main()
{
 int n, c=0;
 cout<<"Enter a Number : ";
 cin>>n;
 while(n>0)
 {
 n=n/10;
 c++;
 }
 cout<<"\nThis number has "<<c<<" digit."<<endl;
 return (0);
}
=========================================
// Fibonachi by using for
#include <iostream>
using namespace std;
int main()
{
 int f1=0, f2=1, f3, i;
 cout<<"Fibonachi : "<<f1<<" , "<<f2;
 for(i=1; i<=8; i++)
 {
 f3=f1+f2;
 cout<<" , "<<f3;
 f1=f2;
 f2=f3;
 }
 return (0);
}
=========================================
// Fibonachi by using while
#include <iostream>
using namespace std;
int main()
{
 int f1=0, f2=1, f3, i;
 cout<<"Fibonachi : "<<f1<<" , "<<f2;
 f3=f1+f2;
 while(f3<1000)
 {
 cout<<" , "<<f3;
 f1=f2;
 f2=f3;
 f3=f1+f2;
 }
```

```cpp
  return (0);
}
===========================================
//A Program That Display 5*10 Multiplication Table
#include <iostream>
#include <iomanip>
using namespace std;
int main()
{
 int i, j;
 for(i=1; i<=5; i++)
 {
 for(j=1; j<=10; j++)
 cout<<setw(4)<<i*j;
 cout<<endl;
 }
 return (0);
}
===========================================
//Using break
#include <iostream>
using namespace std;

int main()
{
    int n;
    for(int i=1; i<=10; i++)
    {
        cout<<"In which year the C++ language was invented? ";
        cin>>n;
        if(n==1980)
        {
            cout<<"Correct !"<<endl;
            break;
        }
    }

return (0);
}
===========================================
// Using Continue
#include <iostream>
using namespace std;

int main()
{
    for(int i=-5; i<=5; i++)
    {
        if(i==0)
            continue;
        cout<<i<<endl;
    }

    return (0);
}
===========================================
// Using Math Function
#include <iostream>
#include <cmath>

using namespace std;
```

```cpp
int main()
{
    int n;
    cout<<"Enter a number : ";
    cin>>n;
    cout<<sqrt(n)<<endl;

    return (0);
}
==========================================
// Simple Function
#include <iostream>
using namespace std;

int cube(int n)
{
    return(n*n*n);
}

int main()
{
    cout<<cube(3)<<endl;
    cout<<cube(5)<<endl;

    return (0);
}
==========================================
// Call by Reference
#include <iostream>

using namespace std;
void swap ( float &x , float &y)
    {
    float  temp = x;
    x = y;
    y = temp;
    }


int main()
{
    float  a = 55.5 , b = 88.8;
    cout << "a= " << a << " , b = " << b << endl;
    swap ( a , b ) ;
      cout << " a= " << a << " , b = "<< b << endl;
    return (0);
}
```