

## ECE2036: Week1\_A – Language Introduction and C++ Basic Programs

Today we will introduce a few concepts and terminology in computer languages. In addition, we will highlight differences between a “Hello World” program in C and C++. Furthermore, we will discuss basic input and output to terminal window. We will also have a brief discussion of namespaces, and we will go over the syllabus.

### **“Hello World” C Program**

```
#include <stdio.h>

int main()
{
    printf("Hello World \n");
    return 0;
}
```

### **“Hello World” C++ Program**

```
//This is a single line comment
#include <iostream>

int main()
{
    std::cout << "Hello World! \n";
    return 0;
}
```

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- What is Moore’s Law?
  - What is the implication for software design?
  - What is machine language?
  - What is assembly language?
  - Programmers view of memory
  - High-level languages
  - Source code
  - Object code
  - Compiling and linking
  - Preprocessor directives
  - Introduce main function
  - Decode this statement
    - `std::cout << “Hello World!\n”;`
  - Decode this statement
    - `std::cin >> value ;`
  - Scope resolution operator
  - Standard namespace
  - String insertion operator
  - `cout` and `cin` software objects
  - Escape sequences (`\n` `\t` `\\` `\’` `\”` )
  - Text editors – vi editor example in class
  - gnu g++ compiler
  - Variable declarations: global variables and local variables
  - Namespaces
  - `using namespace std;`

```

1      //----- Example 1
2      #include <iostream>

3      int main()
4      {
5      int value;

6      std::cout << "Please input a number : ";
7      std::cin >> value ;
8      std::cout << "The number is : " << value << std::endl;
9      return 0;

10     }

11     //----- Example 2

12     #include <iostream>

13     namespace JeffSpace
14     {
15     int value1;
16     int value2;
17     }

18     int value1;

19     int main()
20     {

21     int localVariable;

22     std::cout << "Input first number " << std::endl;
23     std::cin >> JeffSpace::value1;

24     std::cout << "Input second number " << std::endl;
25     std::cin >> JeffSpace::value2;

26     value1 = JeffSpace::value1 + JeffSpace::value2;
27     std::cout << value1 << std::endl;
28     std::cout << JeffSpace::value1 << std::endl;
29     return 0;

30     }

```