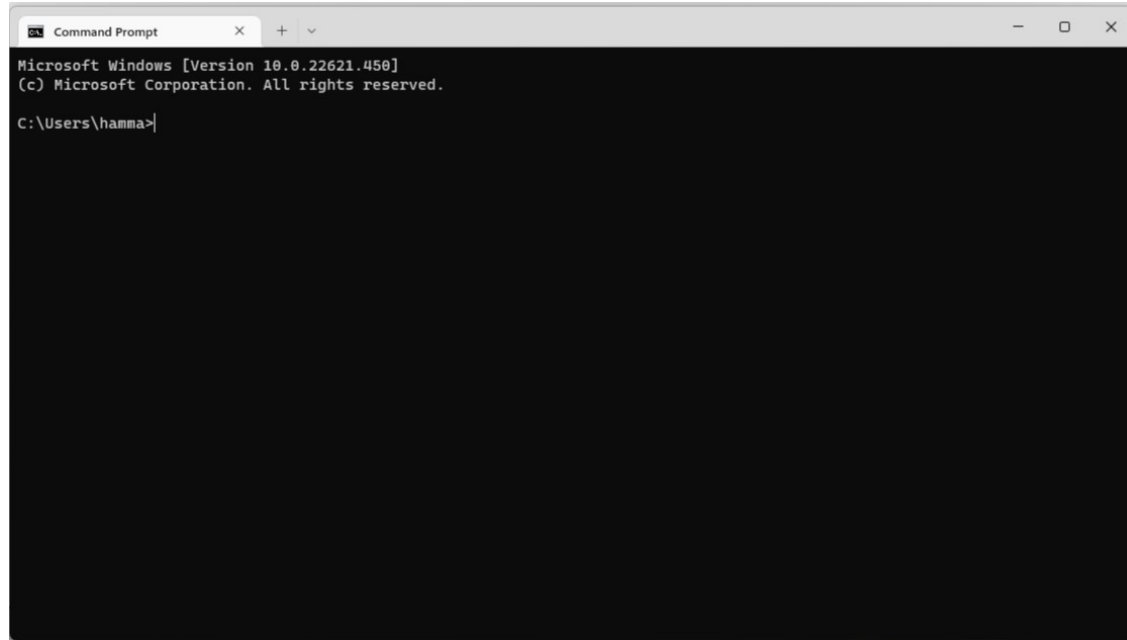Intro to C++

Get Started with C++ Programming on Windows

Console Programs

- **Command Line (CLI)**

- **Commands are typed rather than Point-&-Click**

- **Easy to get started programming for Console**

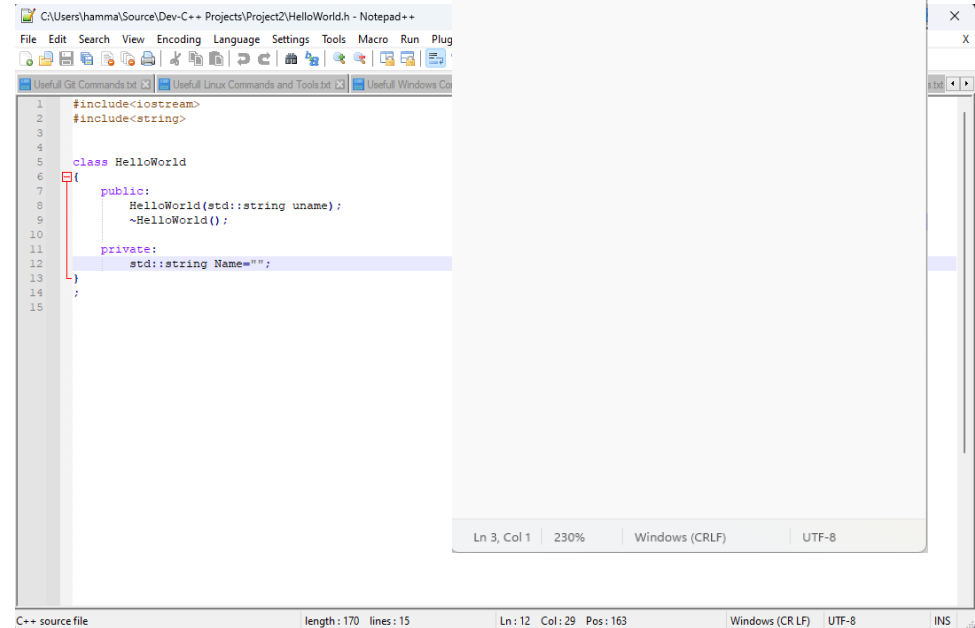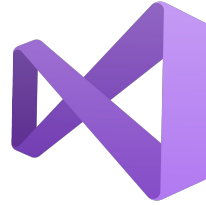- **Later on transition to Graphical User Interface (GUI) programming**


```
Command Prompt        ×    +    ∨

Microsoft Windows [Version 10.0.22621.450]
(c) Microsoft Corporation. All rights reserved.

C:\Users\hamma>
```
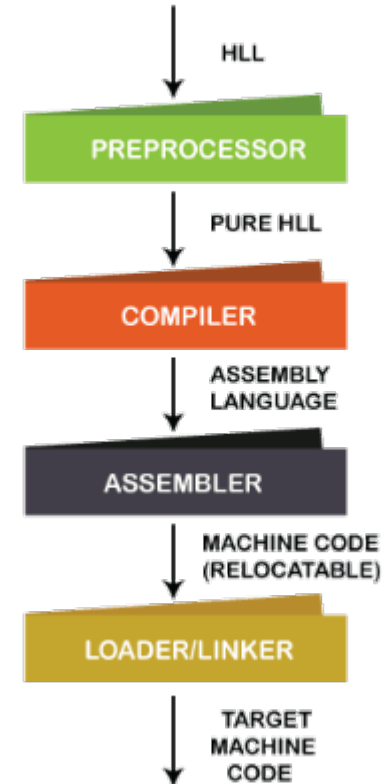
Text Editors and IDE

- Need to type the commands
- Editor provides facilities
  - Notepad
  - Wordpad
  - Notepad++
- Integrated Debugging Environment (IDE) is a special purpose editor for Programmers
  - Microsoft Visual Studio
  - Microsoft Code
  - Dev C++
- What is a Compiler?

What is a Compiler?

- Humans like to communicate in Natural Language

- Computers understand Binary.

- Converts High Level Language (HLL) to 1s and 0s (Machine Code).

- Multi-step process usually hidden behind a button click in the IDE.

STEPS IN A LANGUAGE PROCESSING SYSTEM

HLL

PREPROCESSOR

PURE HLL

COMPILER

ASSEMBLY LANGUAGE

ASSEMBLER

MACHINE CODE (RELOCATABLE)

LOADER/LINKER

TARGET MACHINE CODE

First C++ Program

- #include directive

- Main method

- Method signature

- Std namespace

- Cout function

- Endl constant

- Return a result

```cpp
#include <iostream>


int main(int argc, char** argv) {

    std::cout << "Hello to the C++ World" << std::endl;

    return 0;

}
```

2nd C++ Program

- Data Types
  - Int
  - Char
  - String
- Variables
- Arguments/Parameters
  - Formal Parameters/Arguments
  - Actual Parameters/Arguments
- Methods
- Method return data type

```cpp
#include <iostream>

#include <string>

using namespace std;

int main(int argc, char** argv) {

    string your_name = "Alf";

    cout << "Welcome " << your_name << ", I hope you like programming" <<
endl;

    return 0;

}
```