CS102: Editor, Compiler and Hello World

Hannah Aizenman

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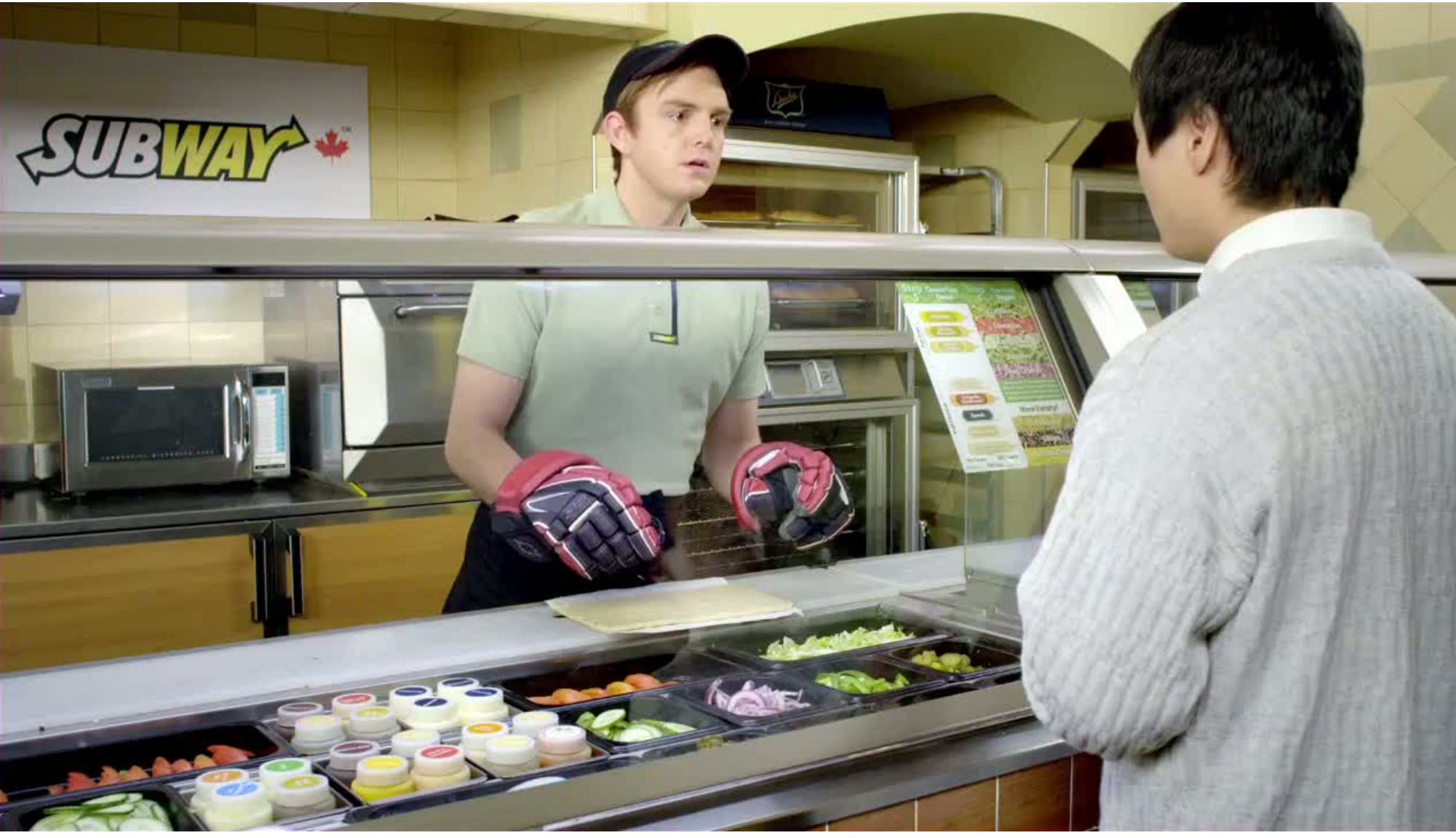
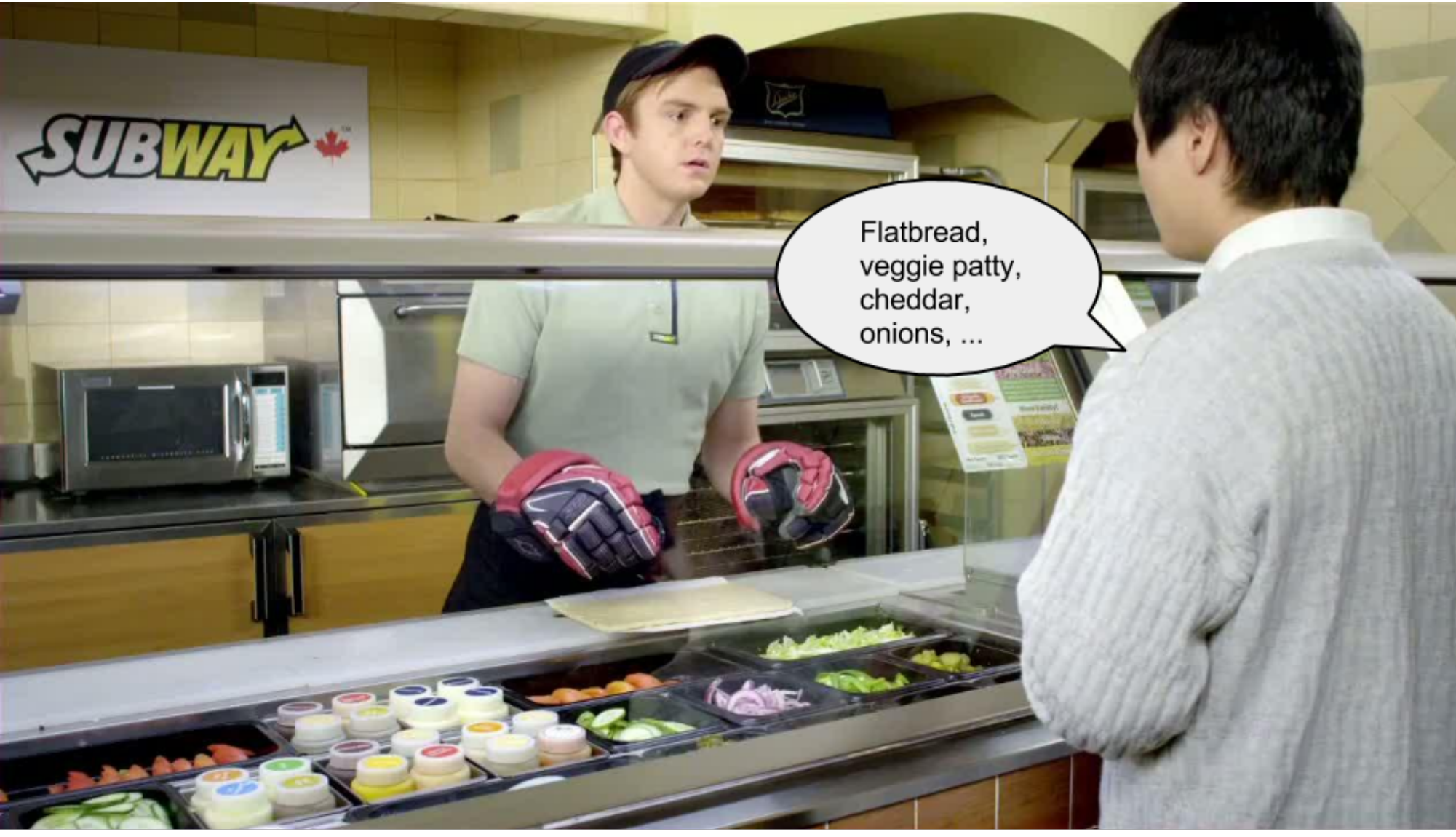
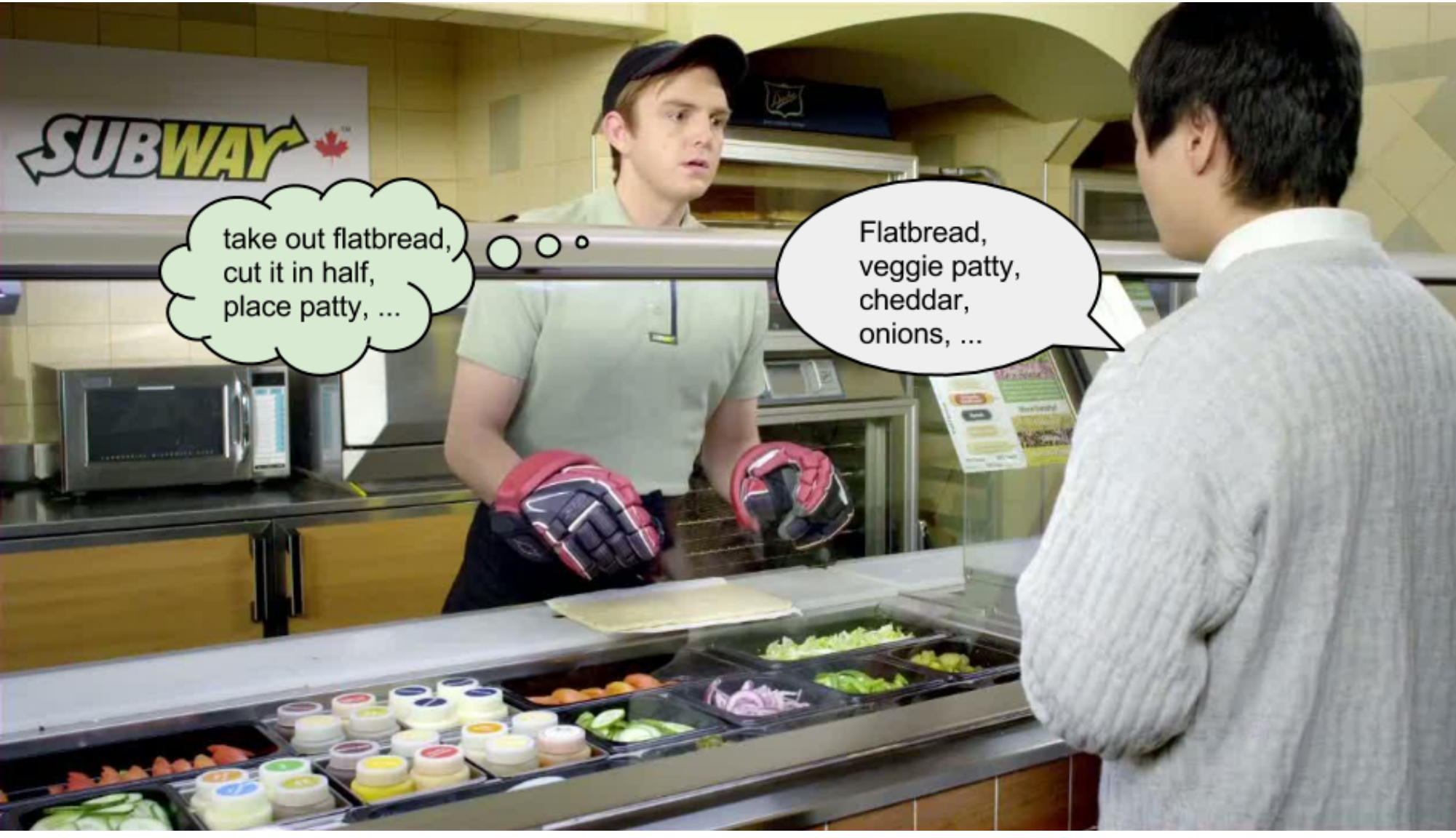
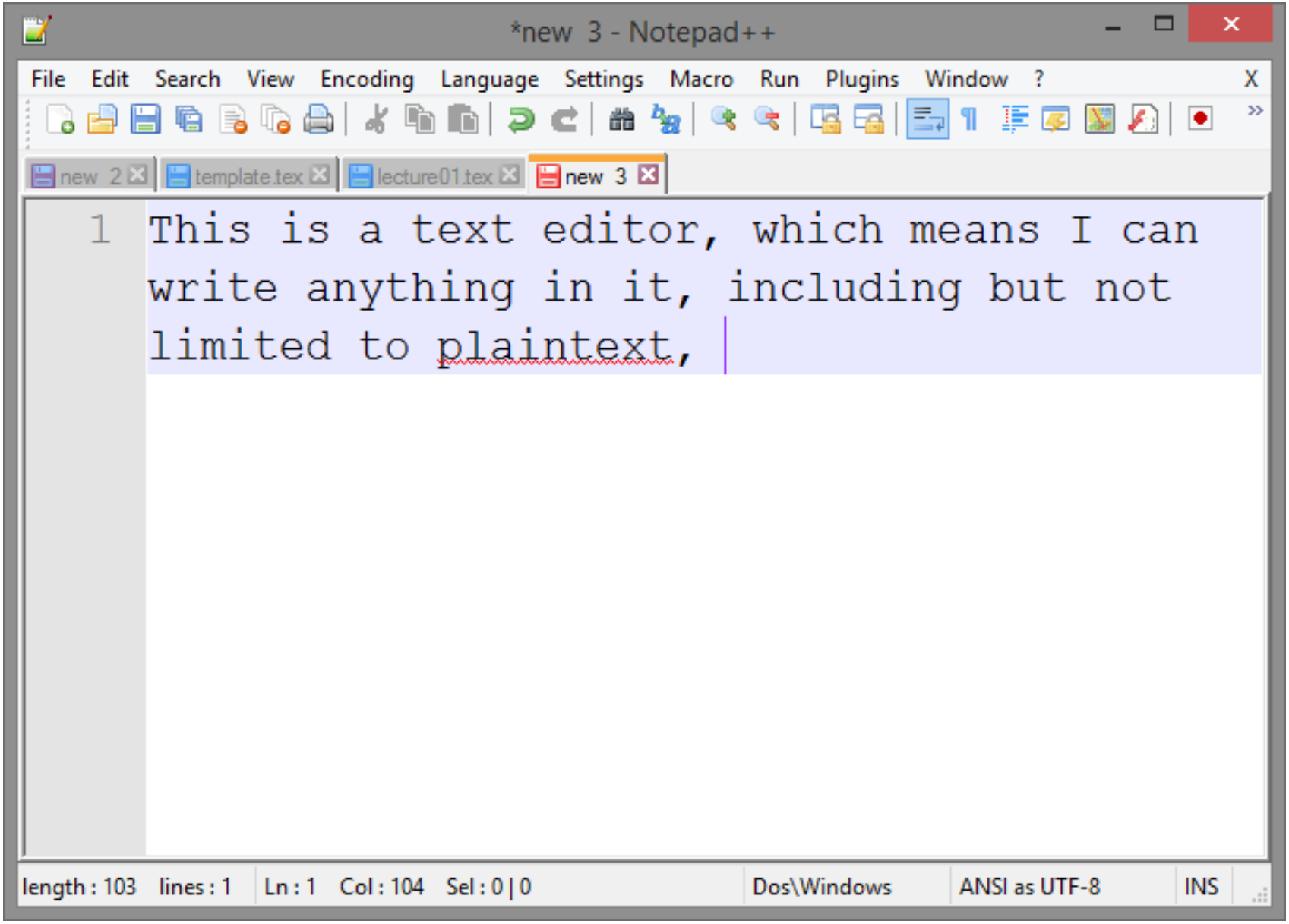

SUBWAY

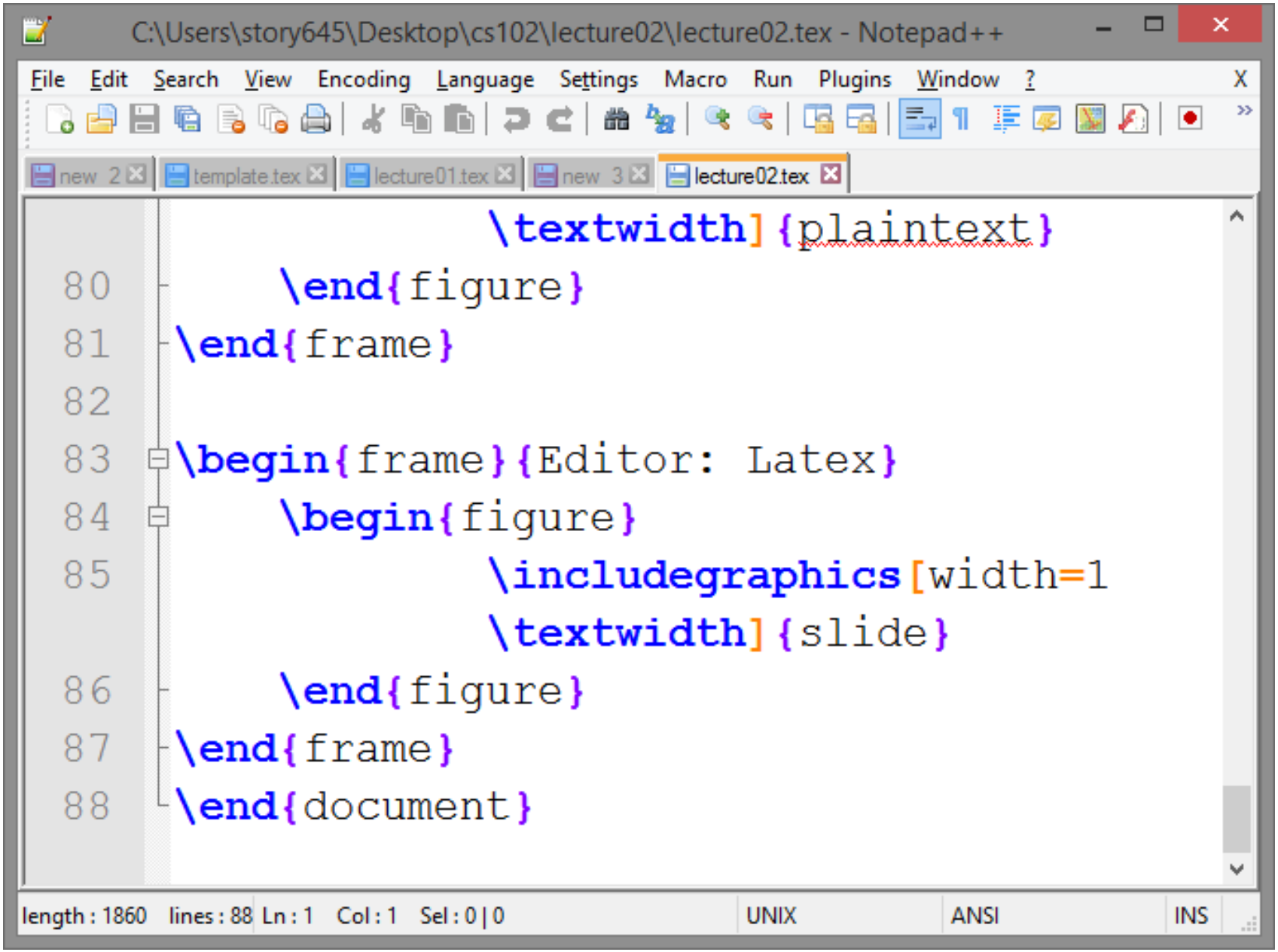

SUBWAY
Flatbread,
veggie patty,
cheddar,
onions, ...


SUBWAY
take out flatbread, cut it in half, place patty, ...
Flatbread, veggie patty, cheddar, onions, ...

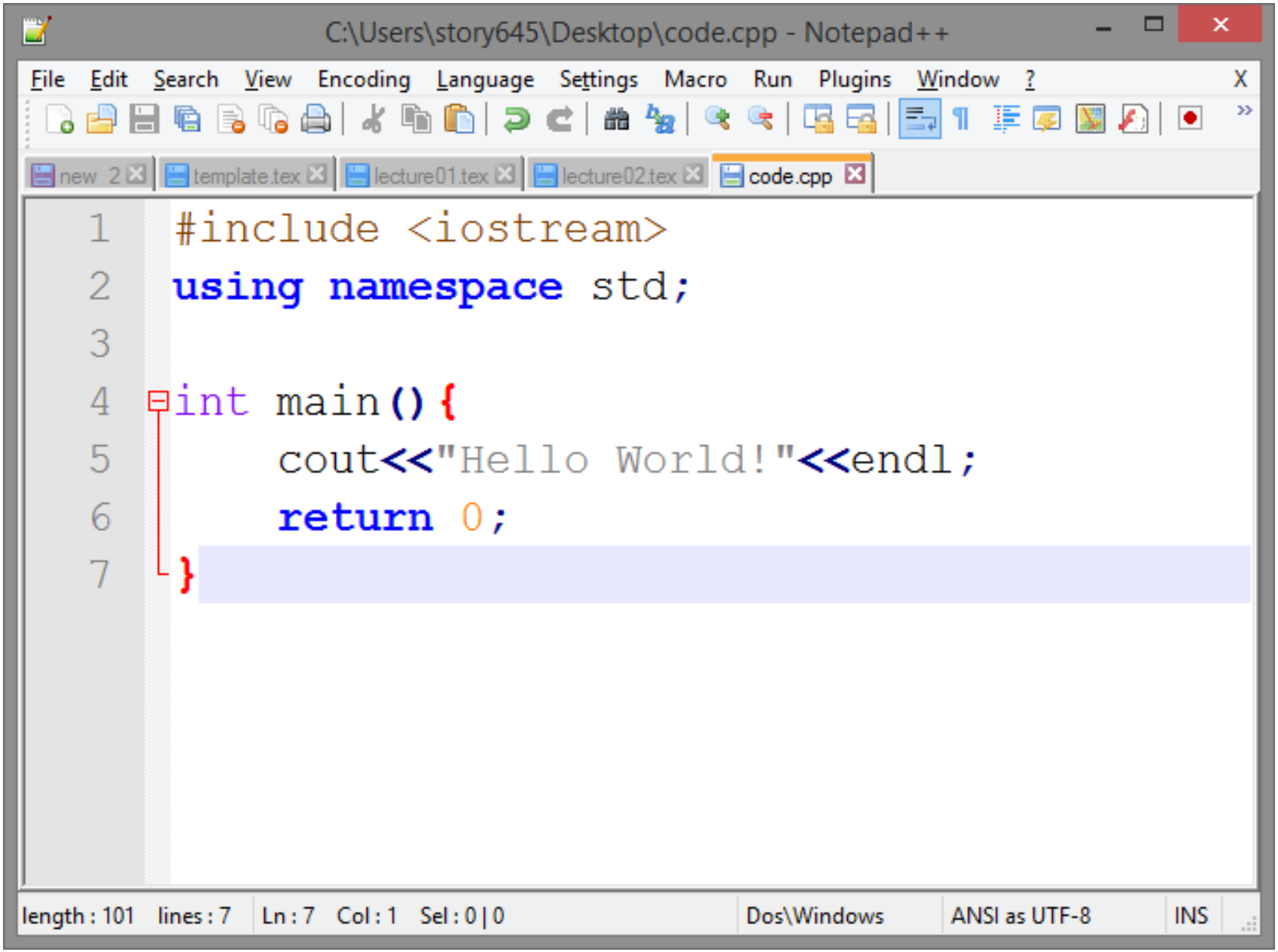
Editor: Plaintext



Editor: Latex



Editor: Code


C:\Users\story645\Desktop\code.cpp - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
new 2
template.tex
lecture01.tex
lecture02.tex
code.cpp
1 #include <iostream>
2 using namespace std;
3
4 int main(){
5 cout<<"Hello World!"<<endl;
6 return 0;
7 }
length : 101 lines : 7 Ln : 7 Col : 1 Sel : 0 | 0
Dos\Windows
ANSI as UTF-8
INS

Editor: Use

- Use something simple that supports:
  - code highlighting
  - code folding

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  - code folding
- Any platform:
  - terminal: vim, emacs, jed, nano
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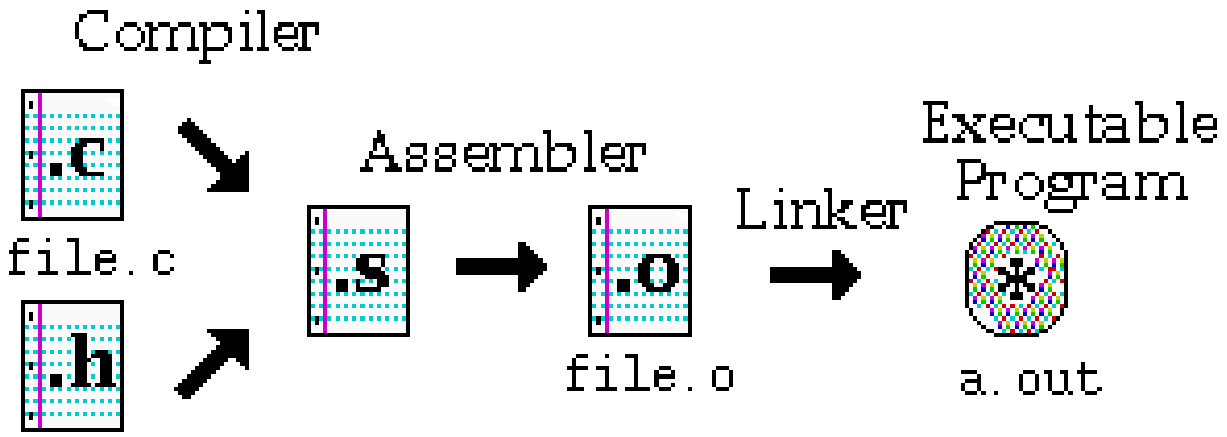
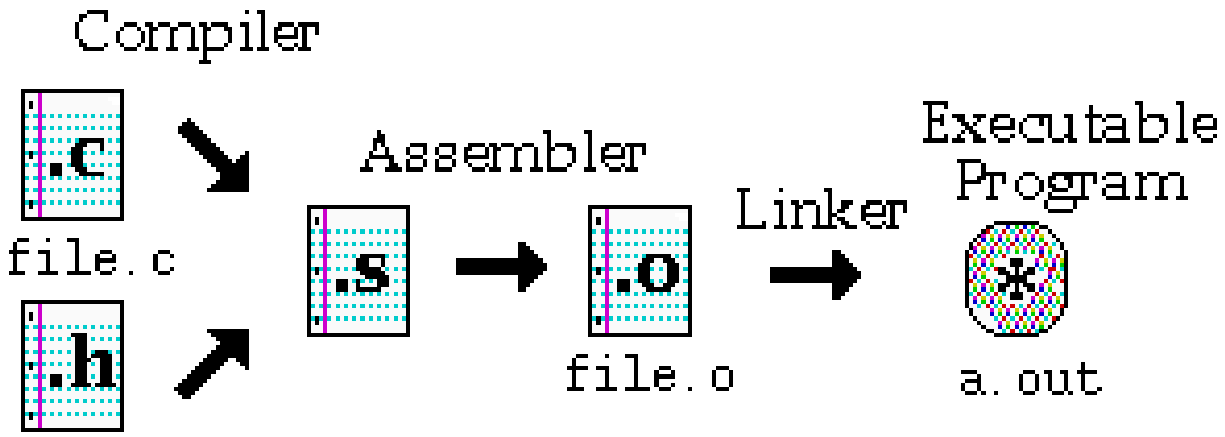
  - code highlighting
  - code folding
- Any platform:
  - terminal: vim, emacs, jed, nano
  - graphical: sublime
- Windows: notepad++, notepad
- Mac: texwrangler, aquamacs, smultron
- Linux: kate, gedit, scite

Compiler


Compiler
.c
file.c
.h
Assembler
.s
.o
file.o
Linker
Executable
Program
a.out

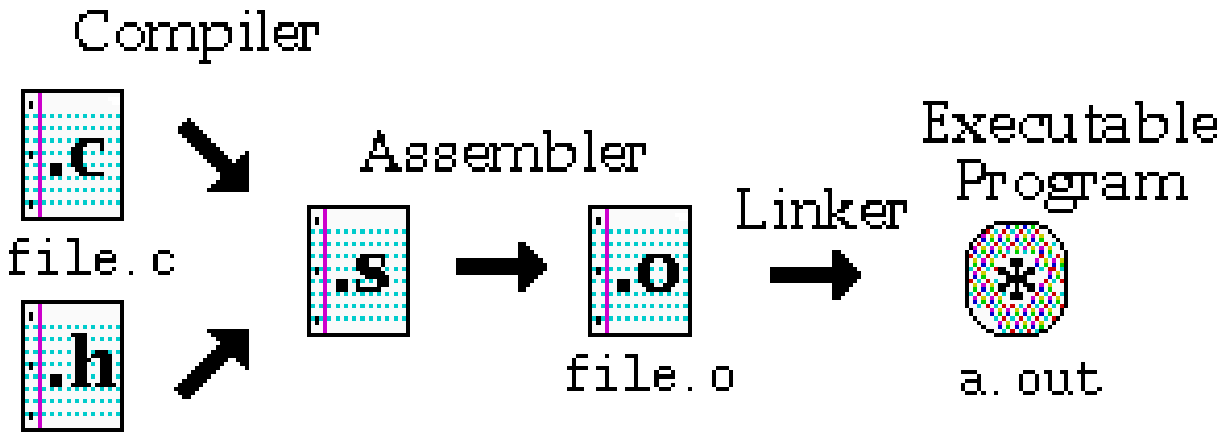
Compiler



Stages

- **Compiler:** Source code (.c/.cpp) converted into low level language (Assembly/.s)

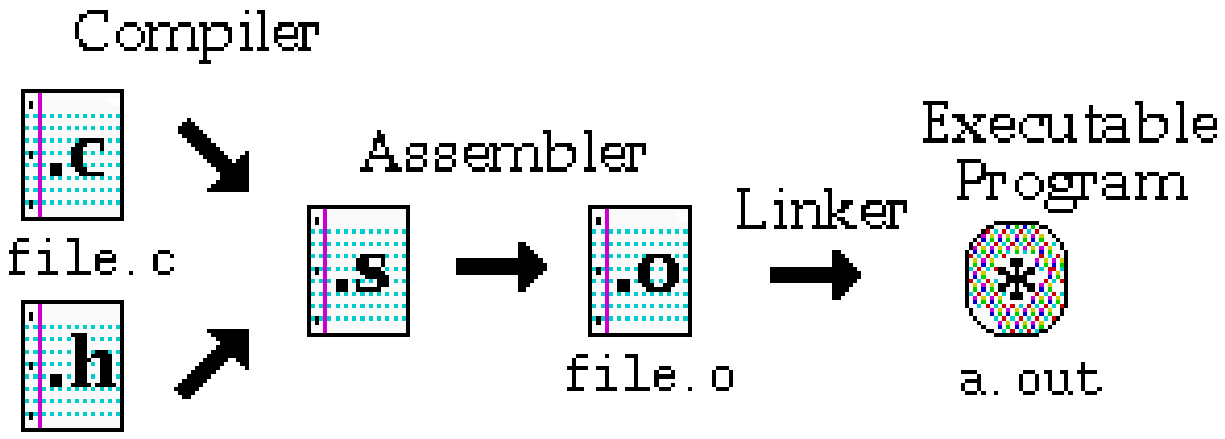
Compiler



Stages

- **Compiler:** Source code (.c/.cpp) converted into low level language (Assembly/.s)
- **Assembler:** Assembly converted into machine code (object files/.o)

Compiler



Stages

- **Compiler:** Source code (.c/.cpp) converted into low level language (Assembly/.s)
- **Assembler:** Assembly converted into machine code (object files/.o)
- **Linker:** Links object files to prewritten/built-in functions and creates executable (.out/.exe)

Compiler: Use

Required for Class

gcc and g++

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gcc and g++

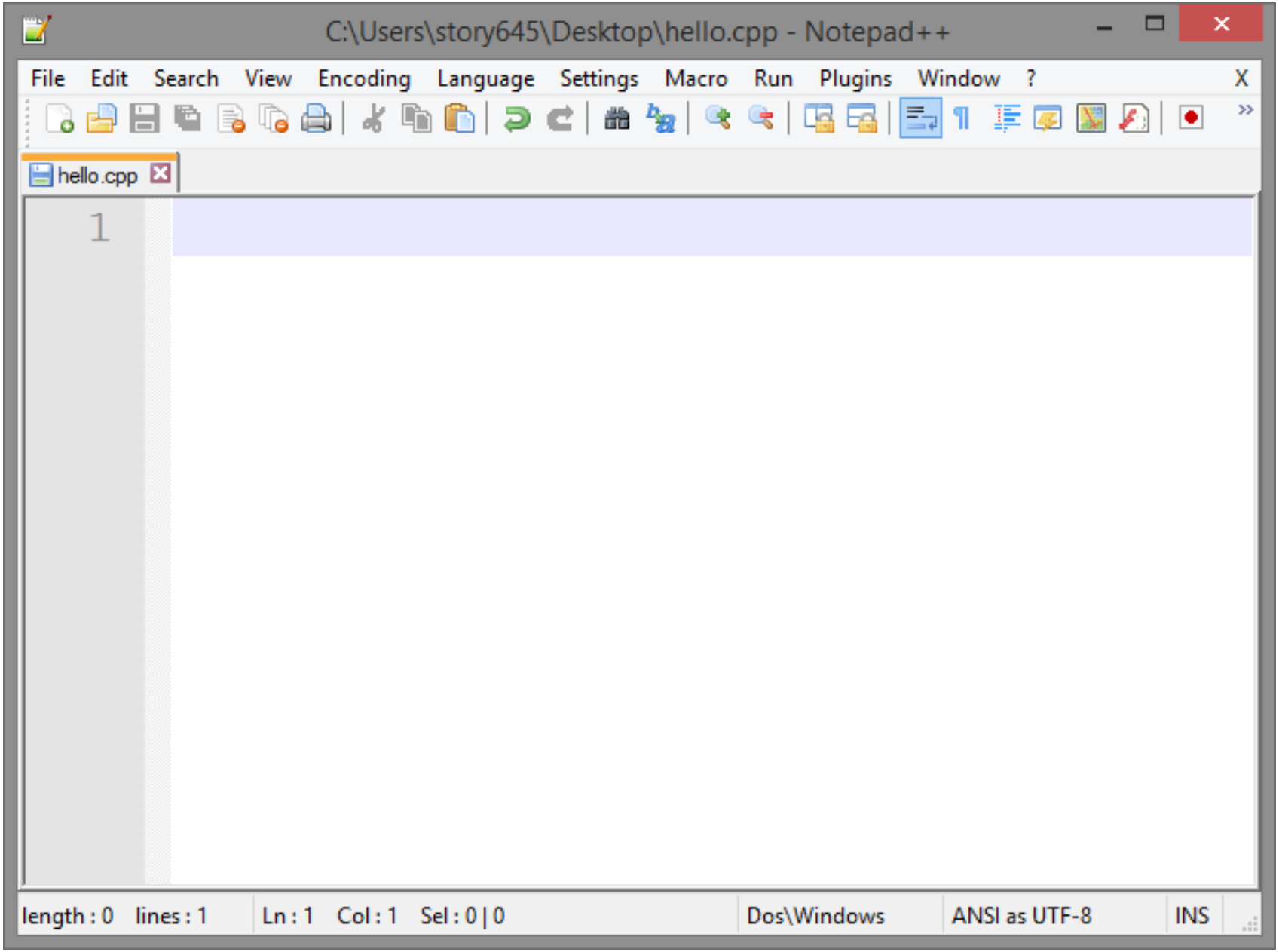
GNU Compiler Collection

- GNU is a unix-like environment
- GNU components built into linux
- GNU emulators required for Windows/Mac

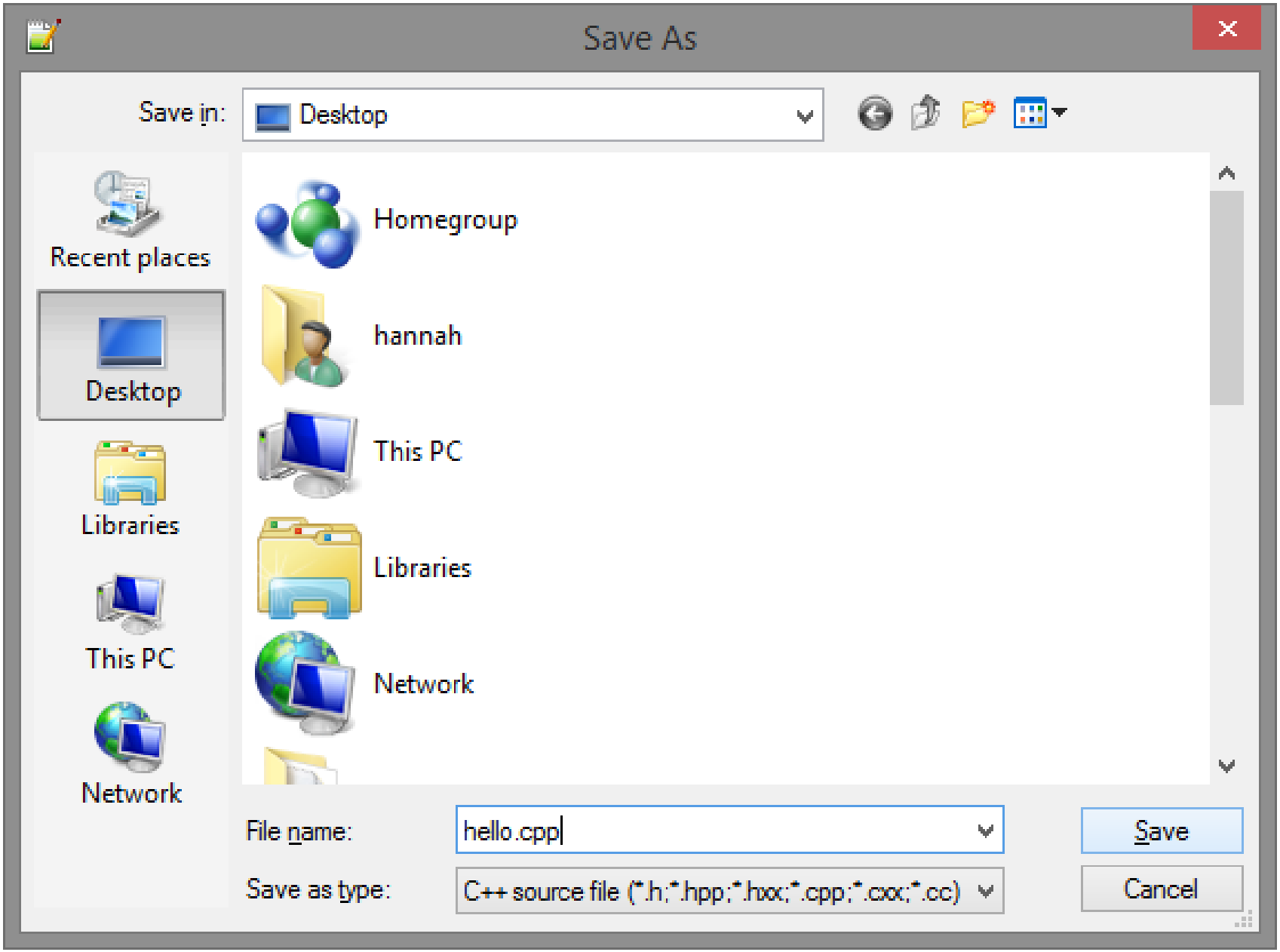
GNU Emulators

- Windows: MinGW or Cygwin
- Mac: homebrew
  - xcode has to be installed for this to work
    but don't use xcode
- Linux: don't need emulator, already baked in
- **Note**: Compiler run from terminal/command prompt

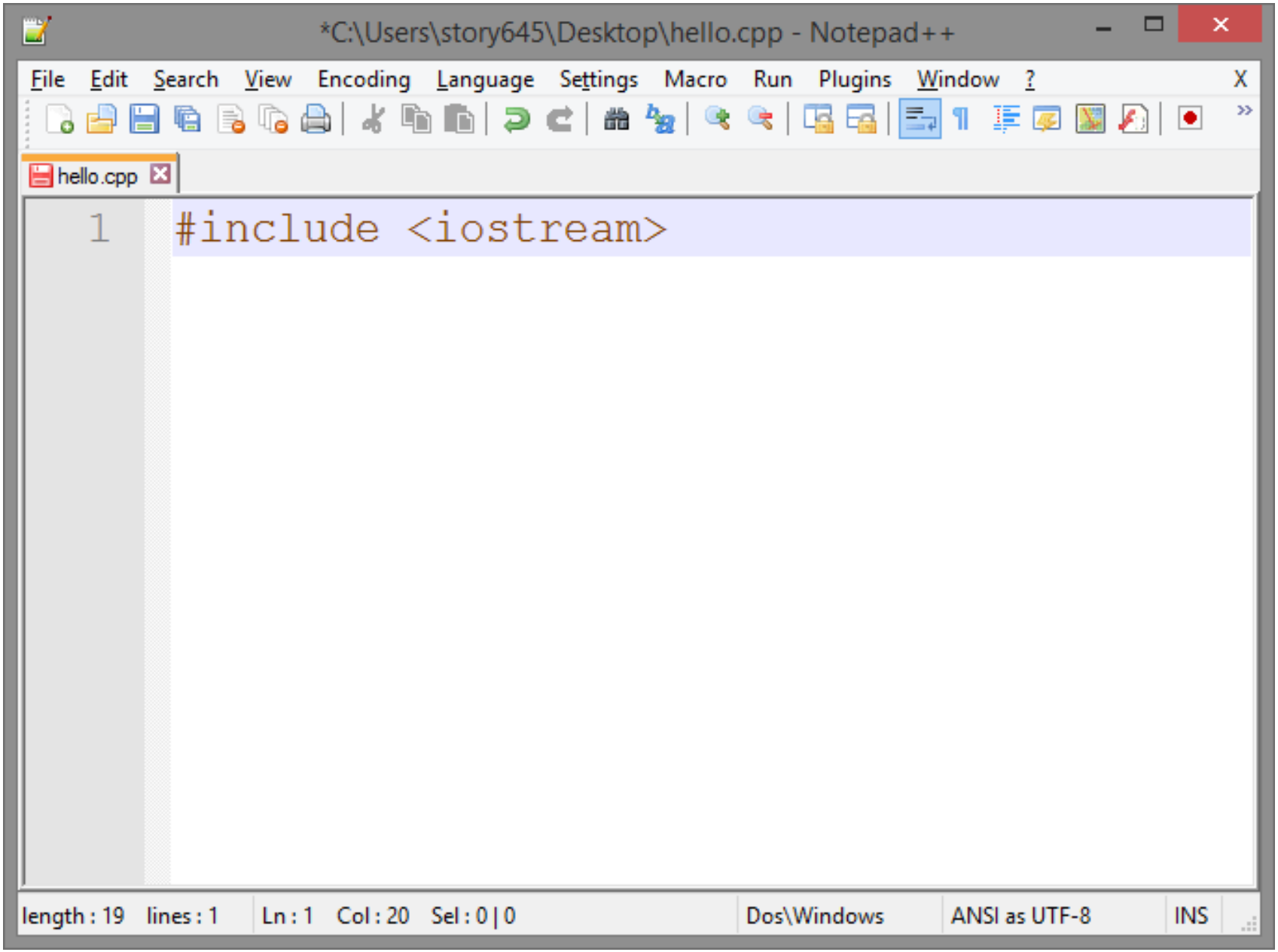
Hello World: Open Editor



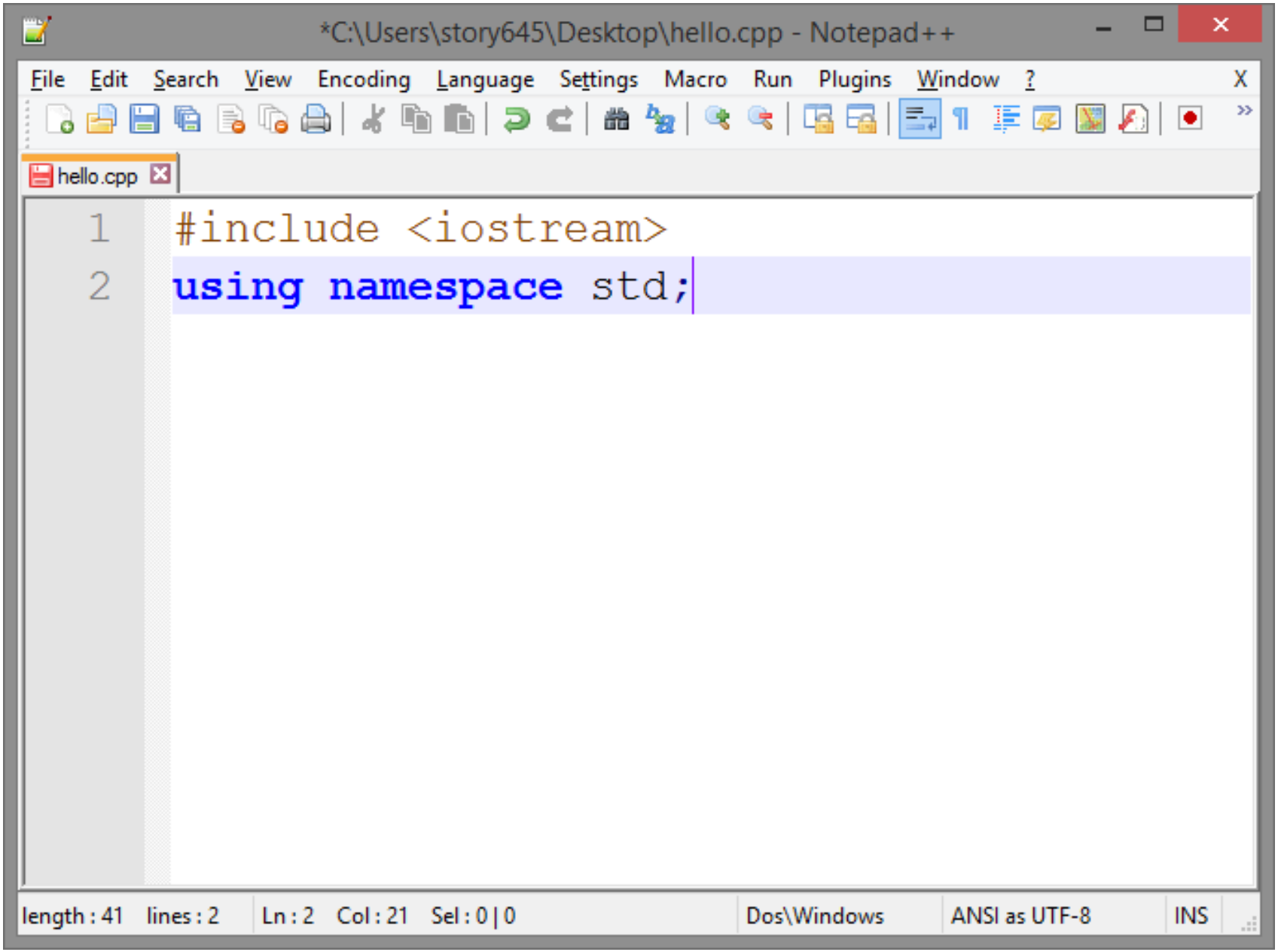
Hello World: Save as .cpp



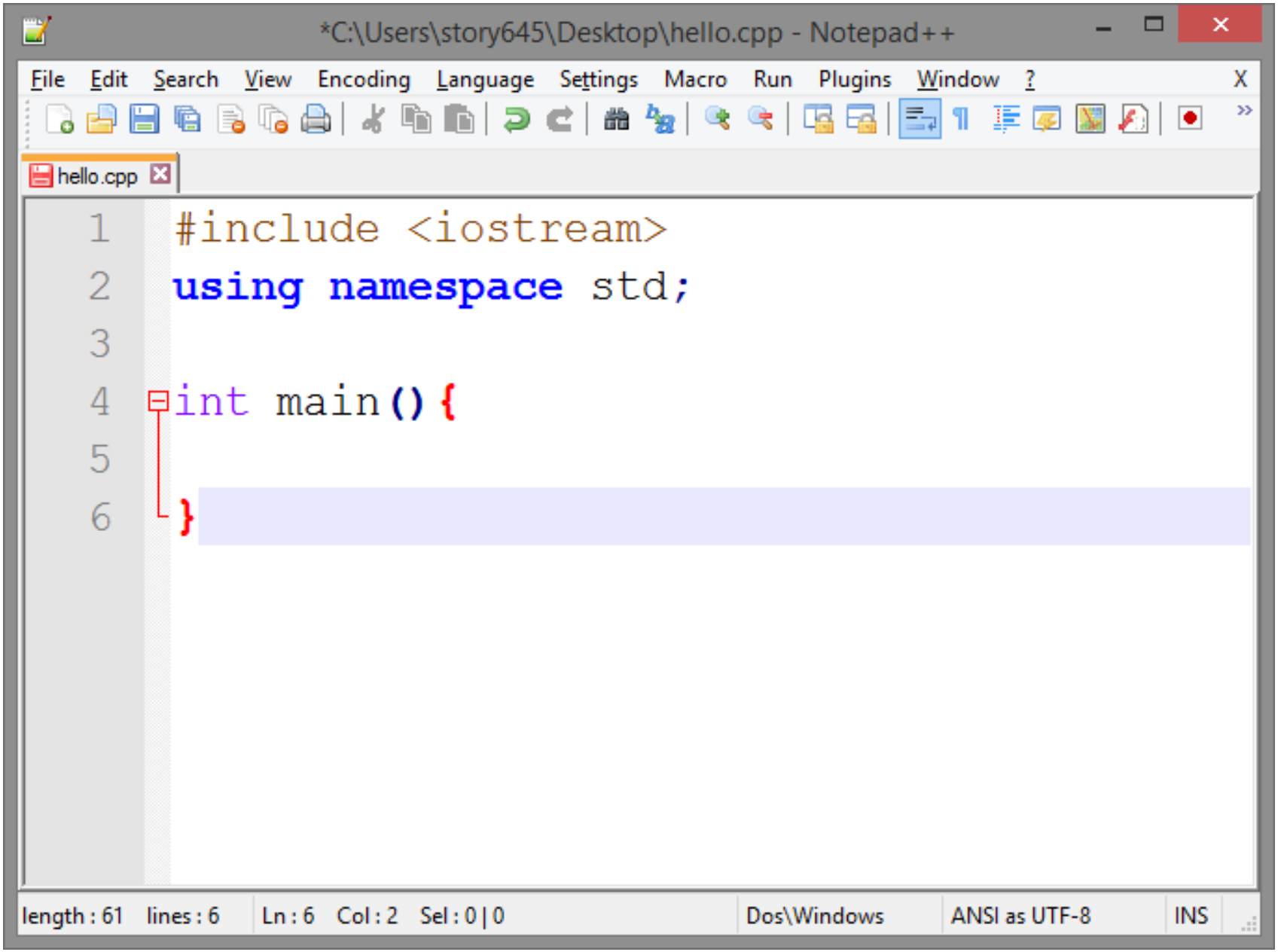
Hello World: Include



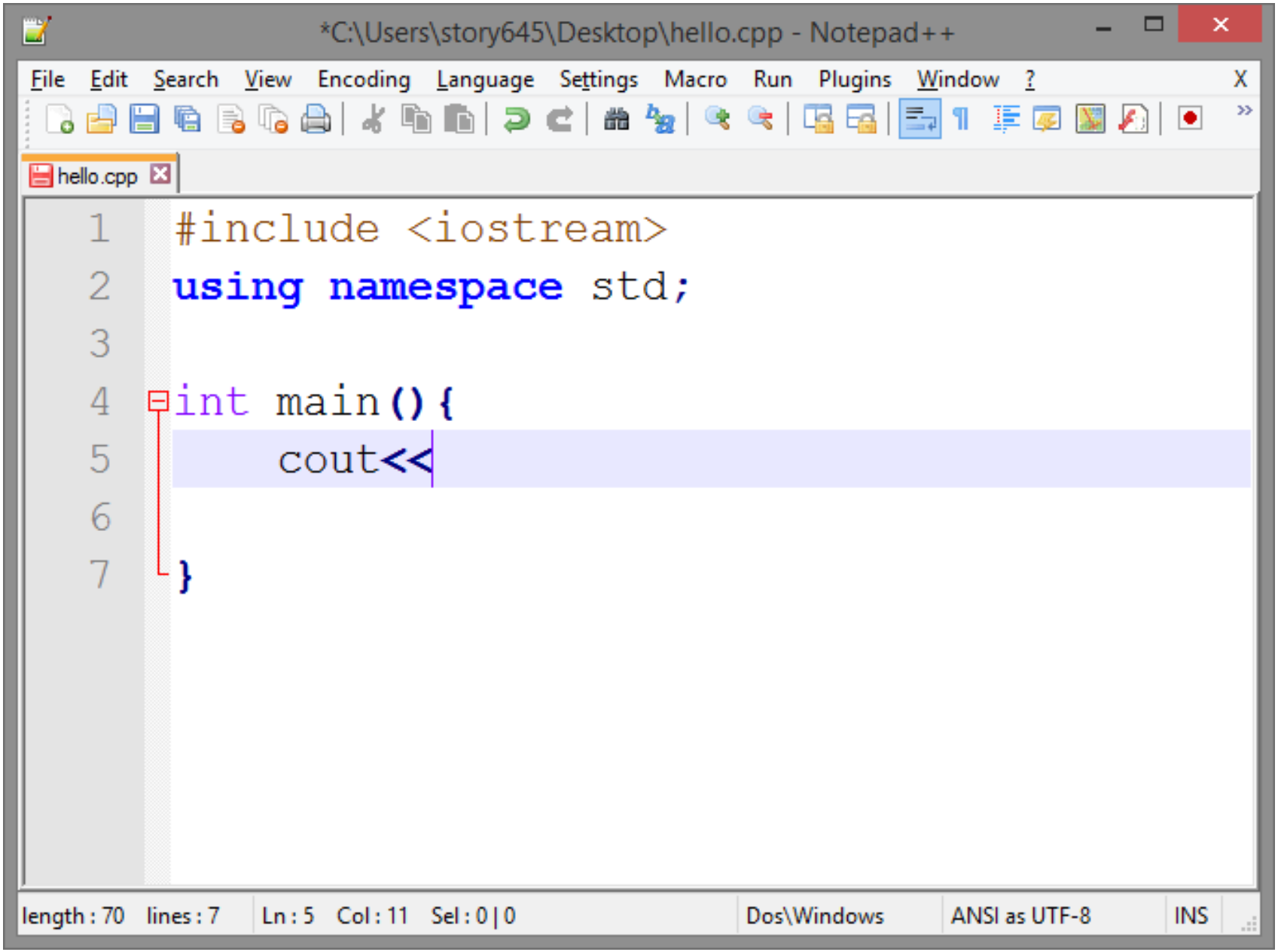
Hello World: Namespace



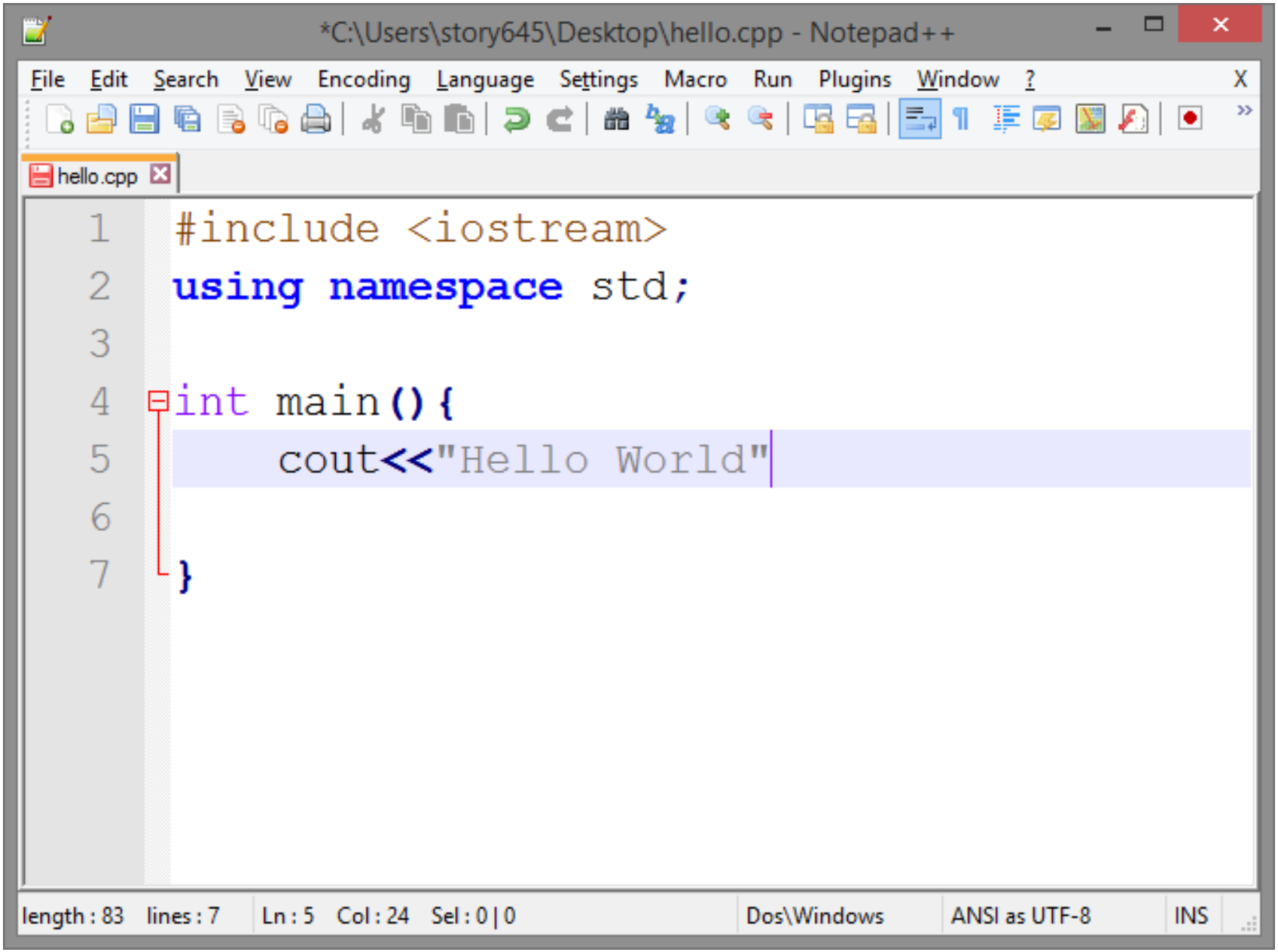
Hello World: Main



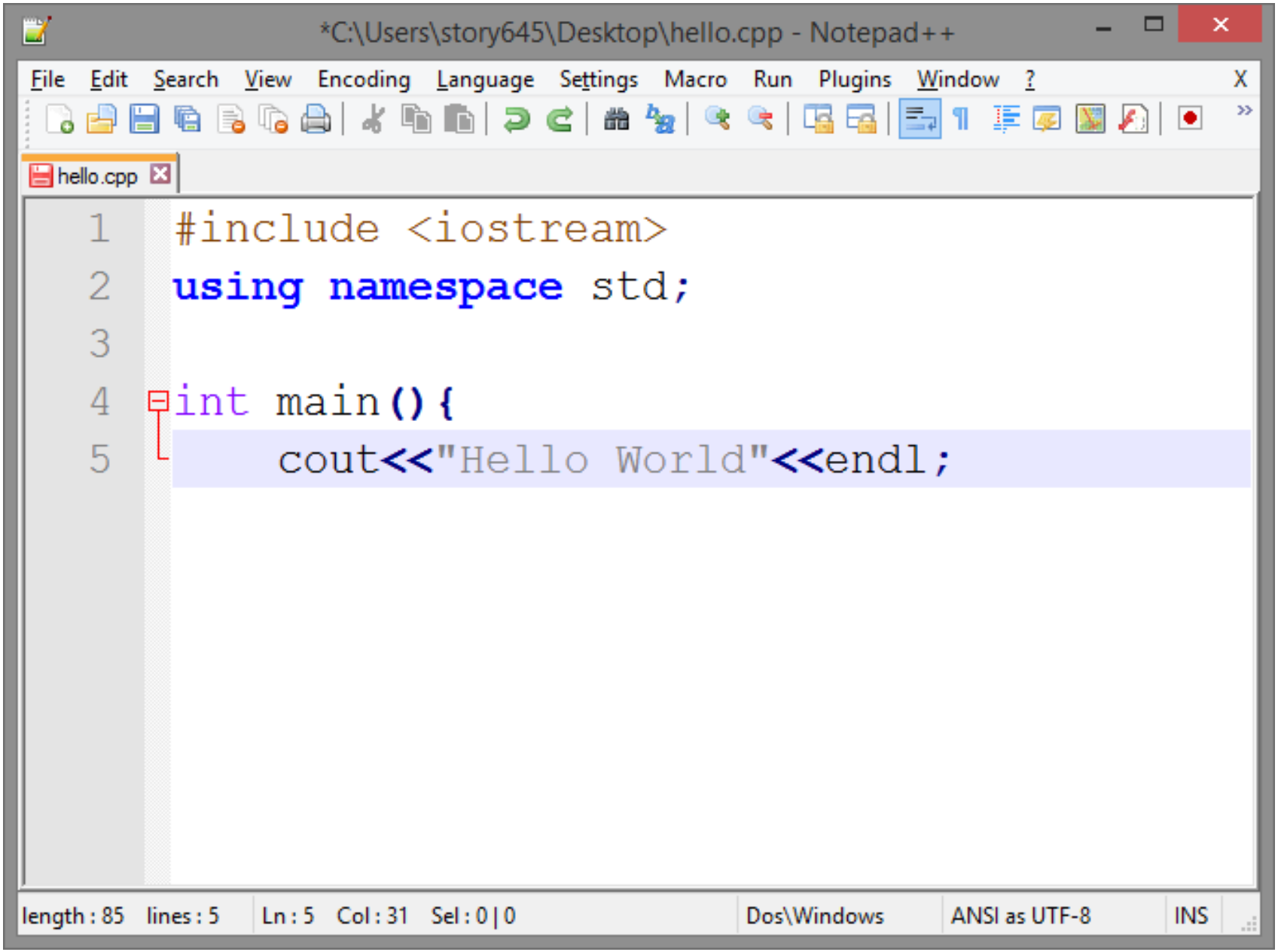
Hello World: Cout



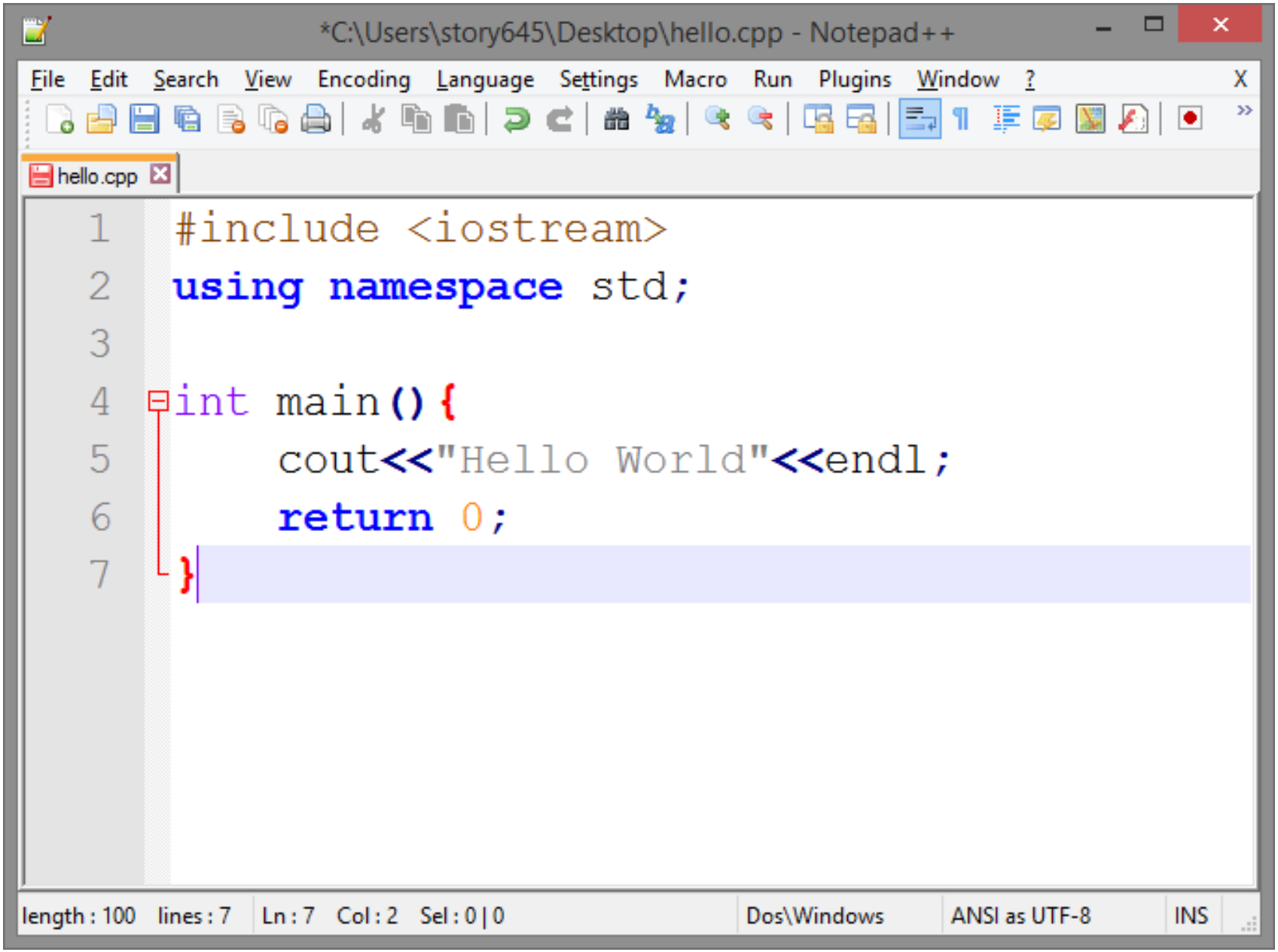
Hello World: Hello



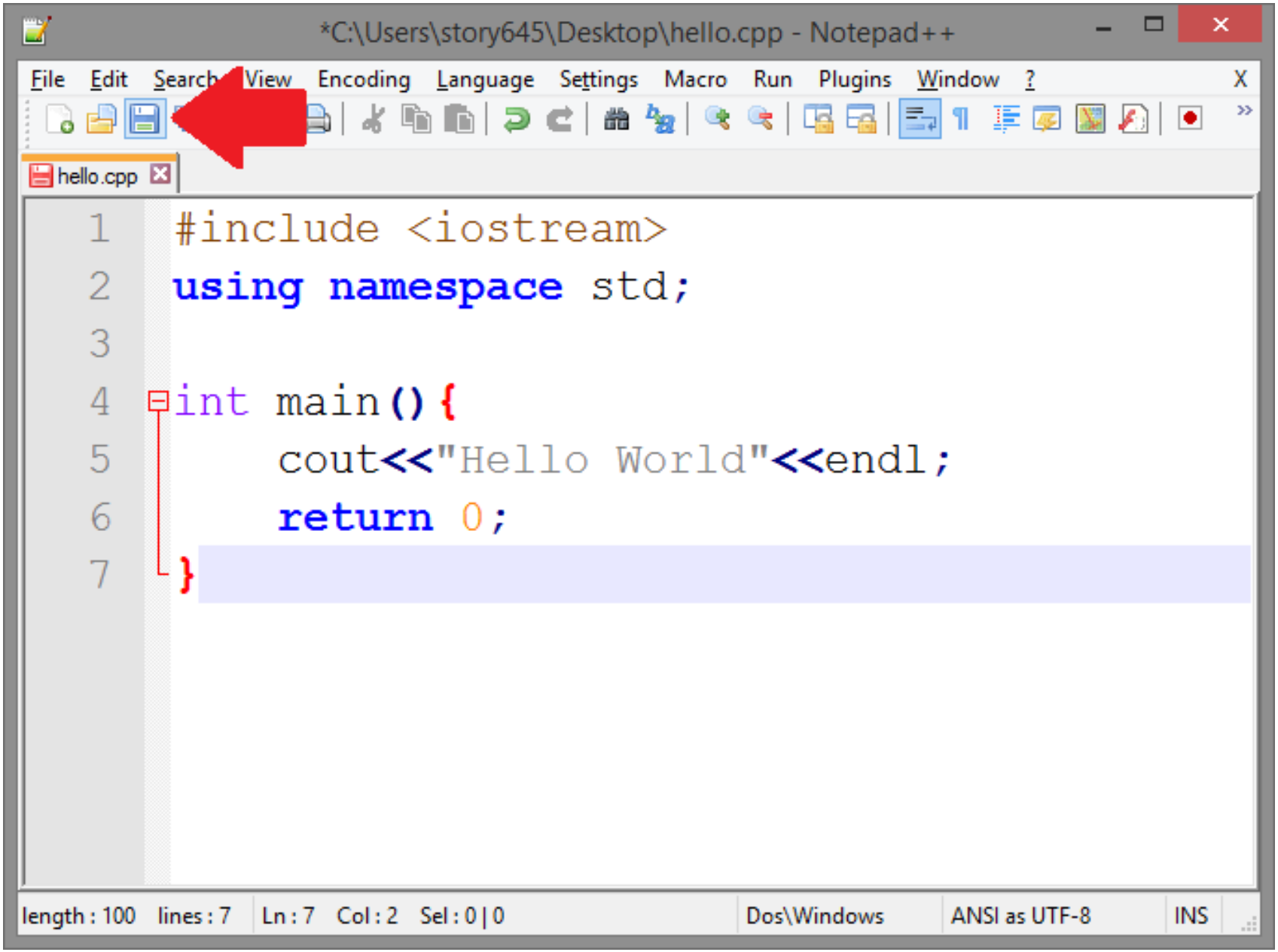
Hello World: Endl



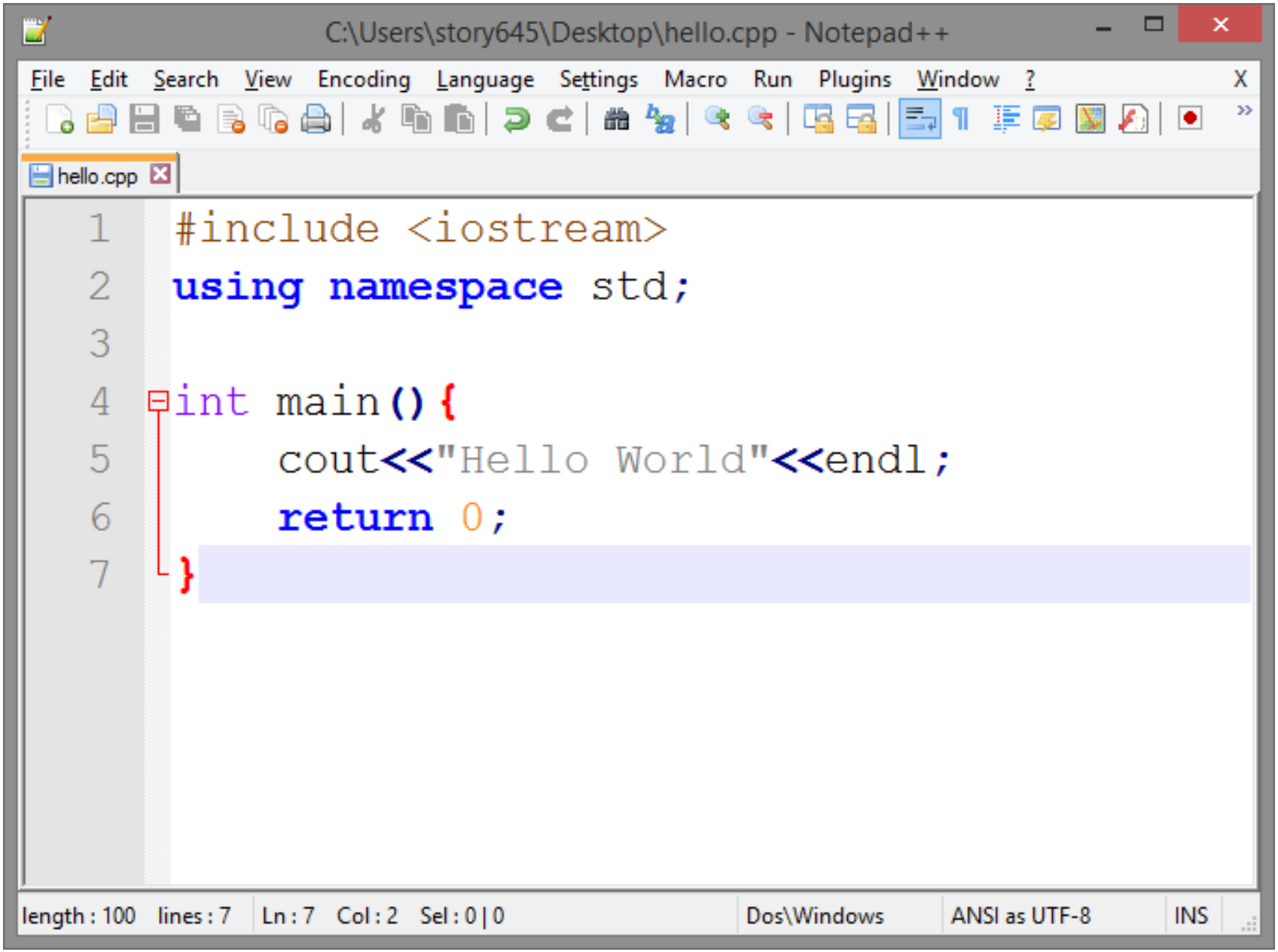
Hello World: Return



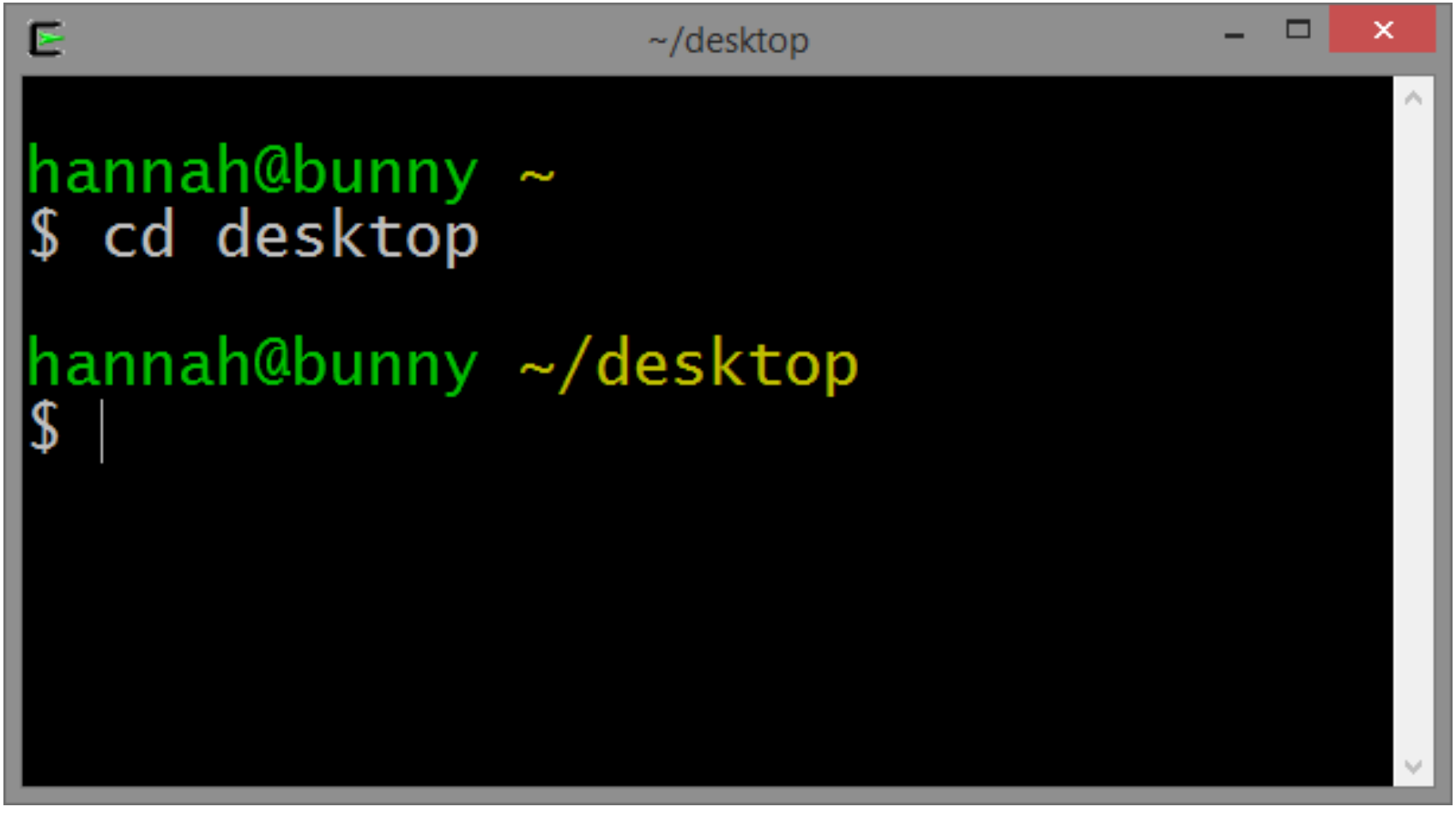
Hello World: Save



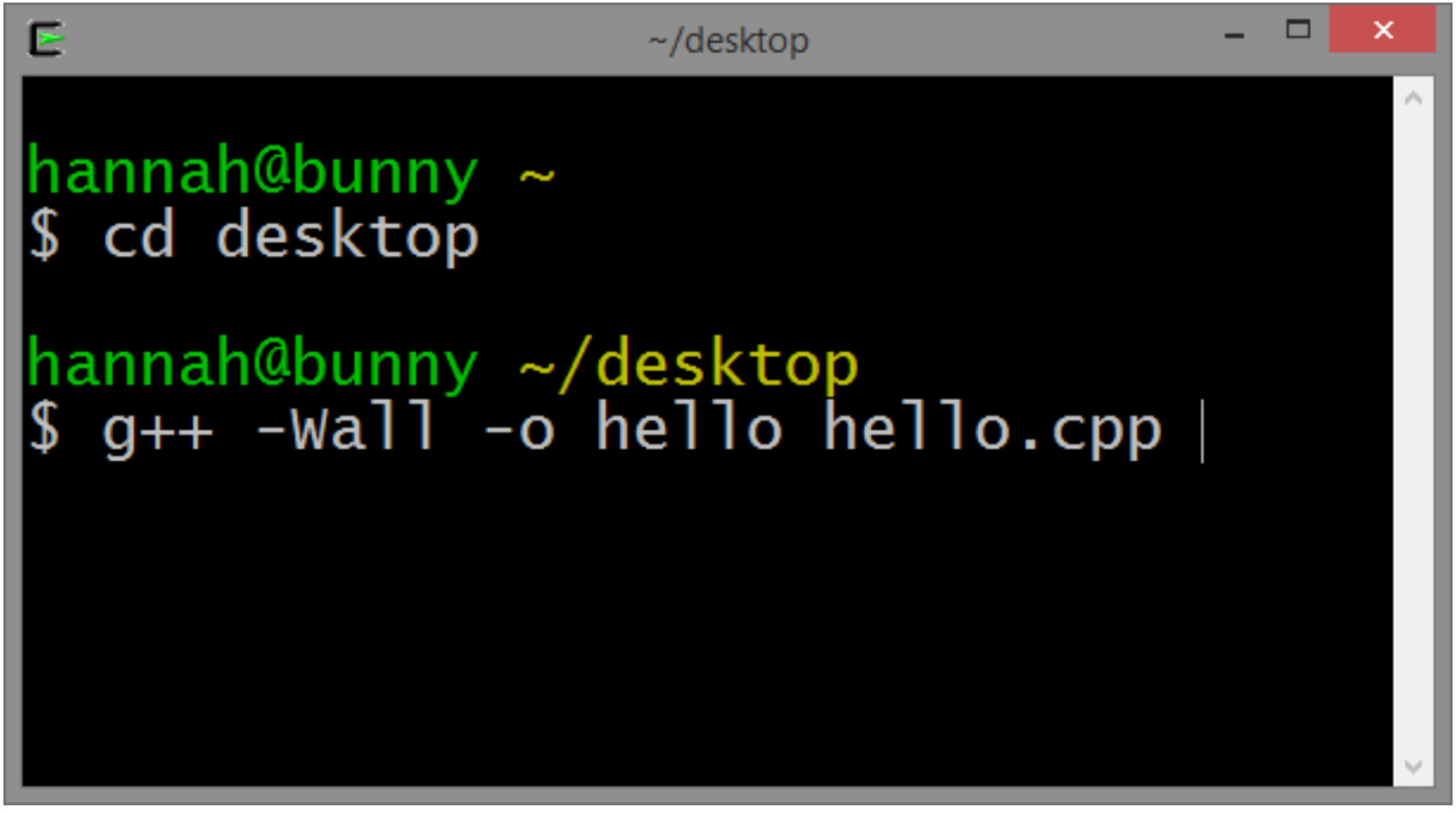
Hello World: Saved



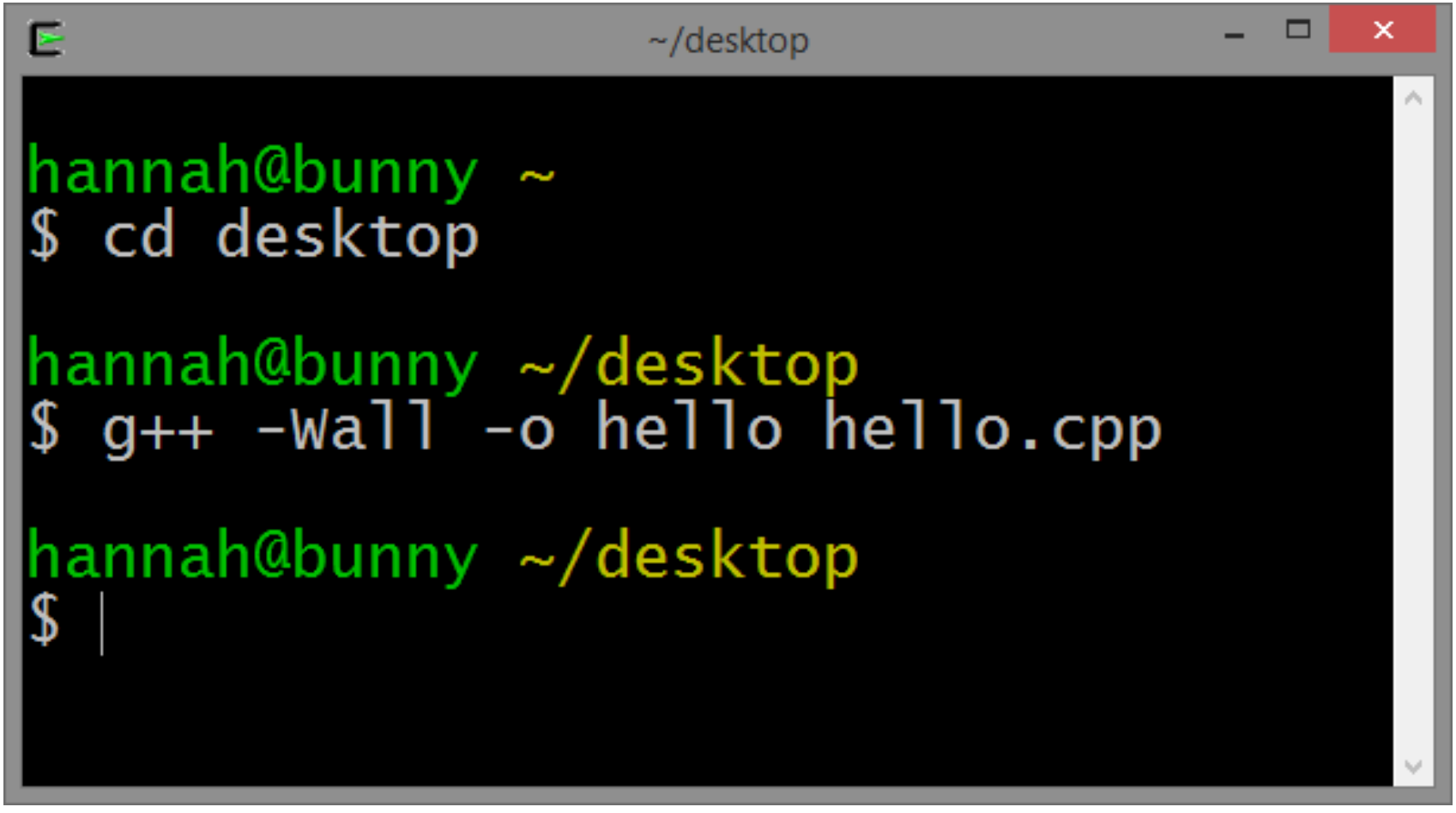
Hello World: cd



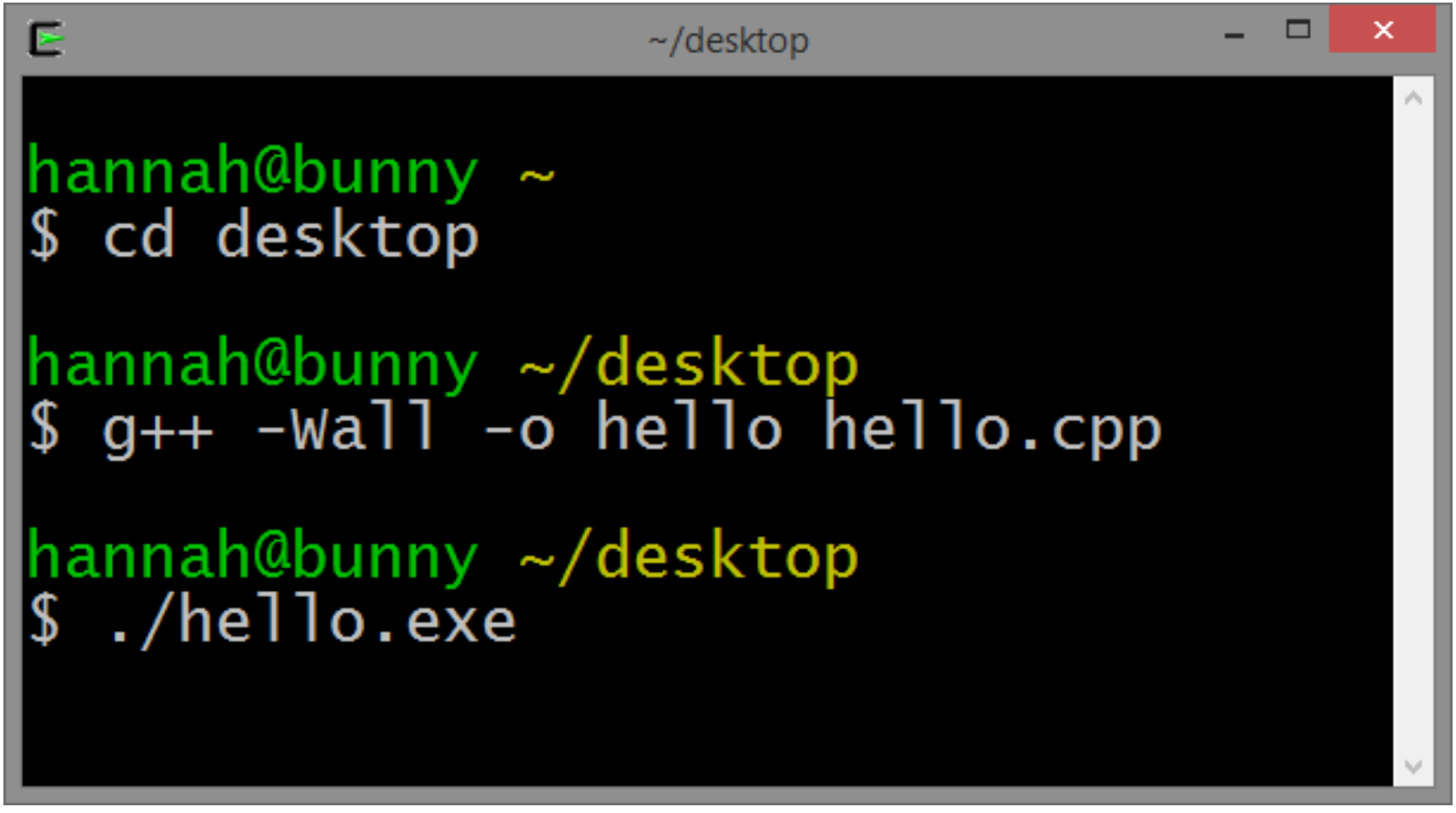
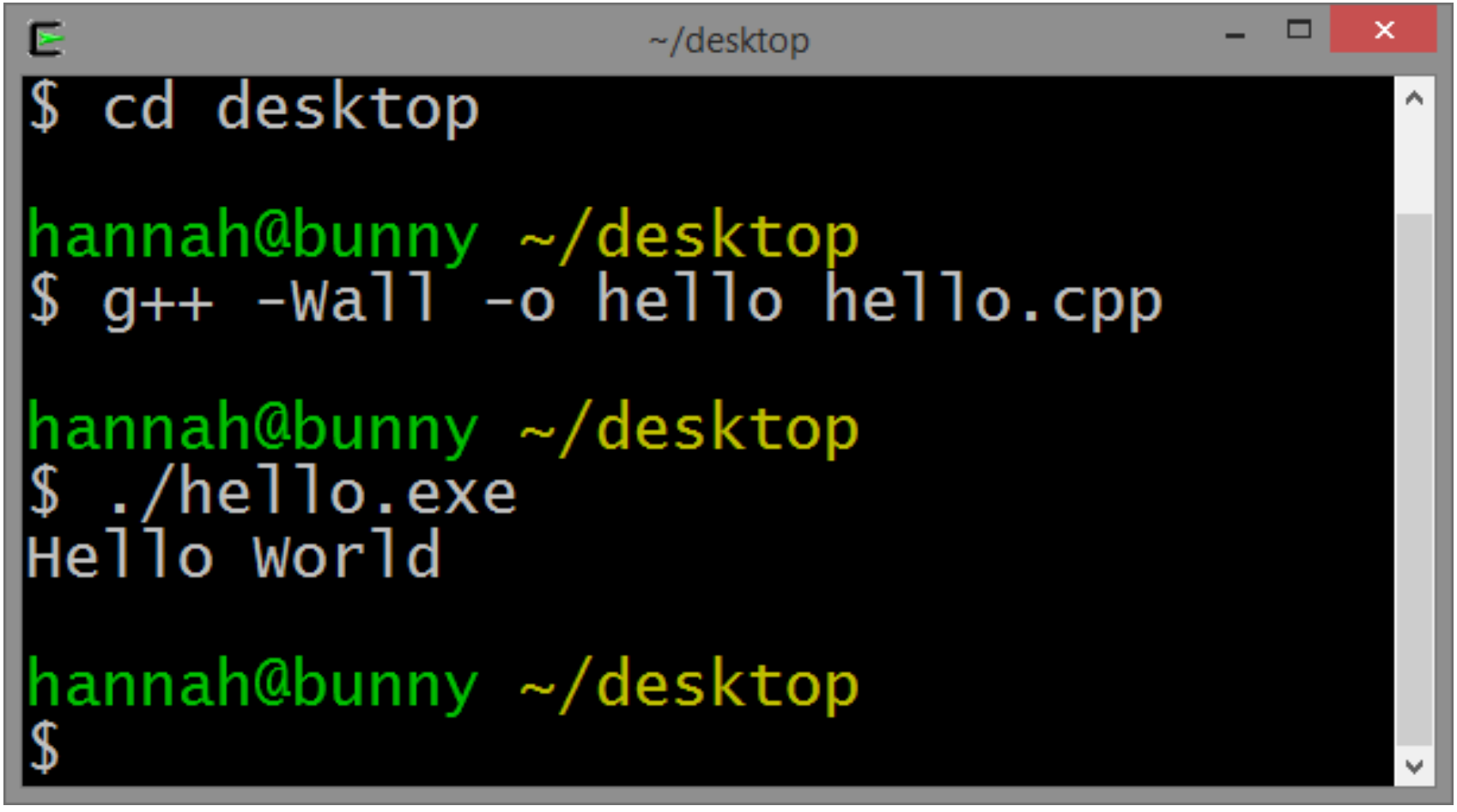
Hello World: Compile



Hello World: Compiled



Hello World: Execute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