CS111

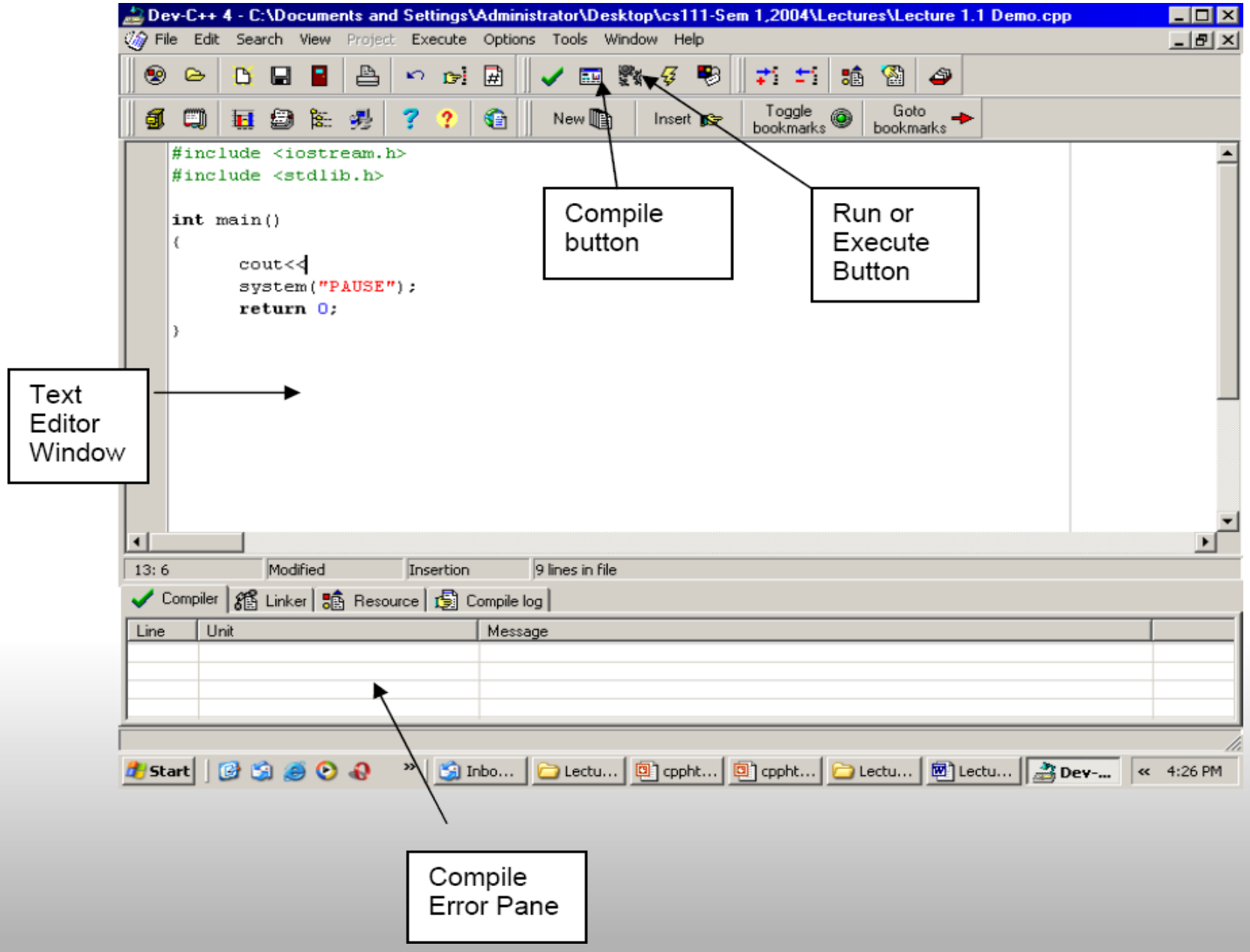
Introduction to Computing Science

Programming in Dev C++

Dev C++

- An Integrated Development Environment (IDE).
- The tool we'll use to write programs in C++.
- *Integrated* because it can be used to
  - Edit a program
  - Compile a program
  - Debug a program
  - Link a program
  - Run a program

Programming C++



Programming in Dev C++

Why use Dev C++

It’s a good, simple, free development environment for C++.
It provides a GUI on top of GCC (GNU Compiler Collection)

- http://gcc.gnu.org/
- http://www.gnu.org/
- http://www.learninglinux.com/modules.php?name=News&file=print&sid=19

Simpler than Microsoft’s Visual Studio or Eclipse.

For small programs it’s a good choice, but for larger and more complex programs professional products offer more.

Programming in Dev C++

Where to get it?

- Try http://www.bloodshed.net/devcpp.html link for Dev C++ IDE downloads.
- The latest version they are offering is Dev C++ 5.0

Programming in Dev C++

How to start:

From START -> Programs -> Dev-C++ -> Dev-C++

or

Double click Dev-C++ icon on the desktop (if available)

Programming in Dev C++

The text editor window is easy to see.

- Occupies the largest area on screen and by default will have something written on it.
- Looks like a sheet of paper on which you write your C++ code.
- You can create a new text editor by:
- Clicking on the New Button or
  - File -> New Source file or CTRL + U

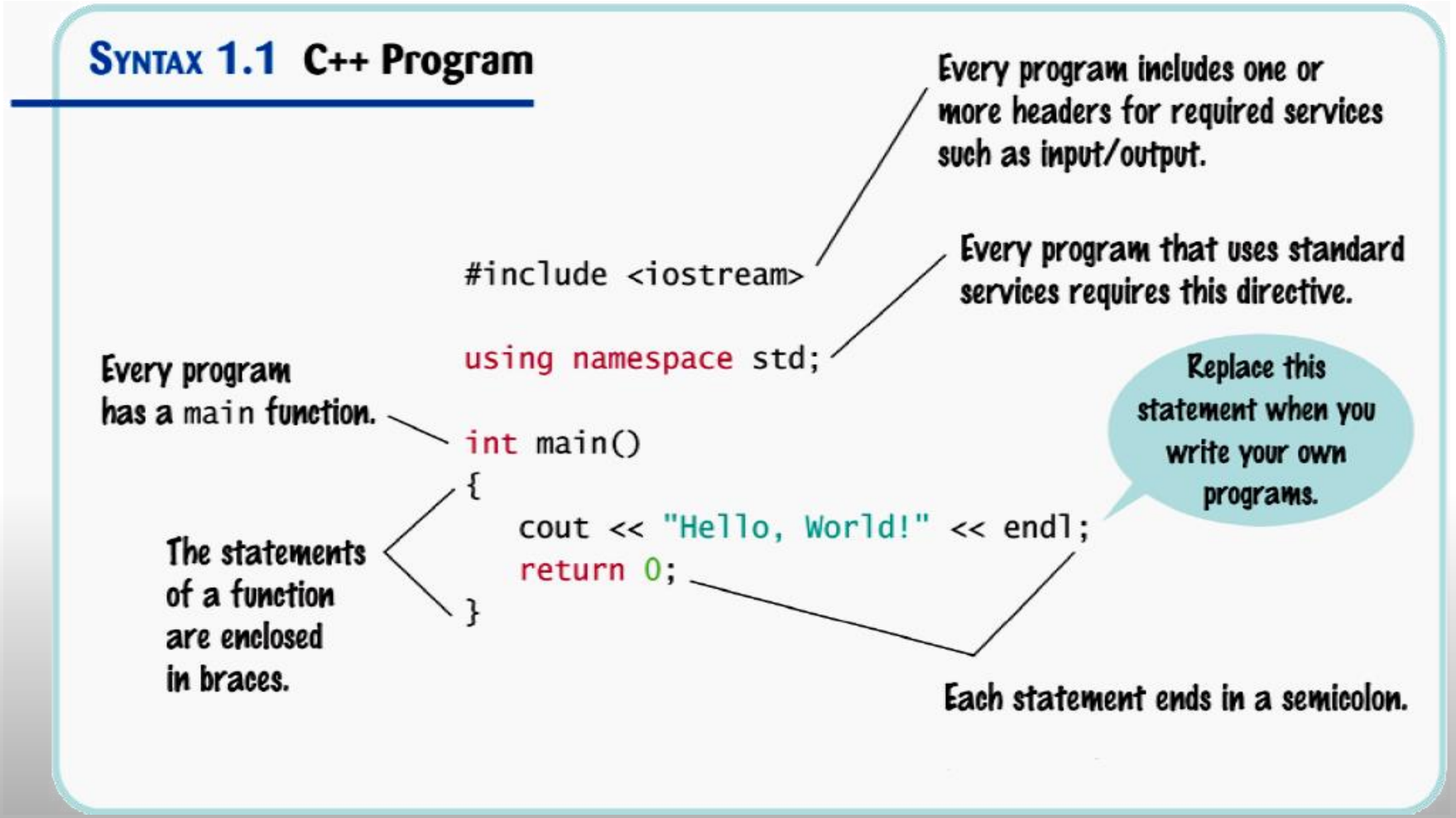
Programming in Dev C++

Our first program:

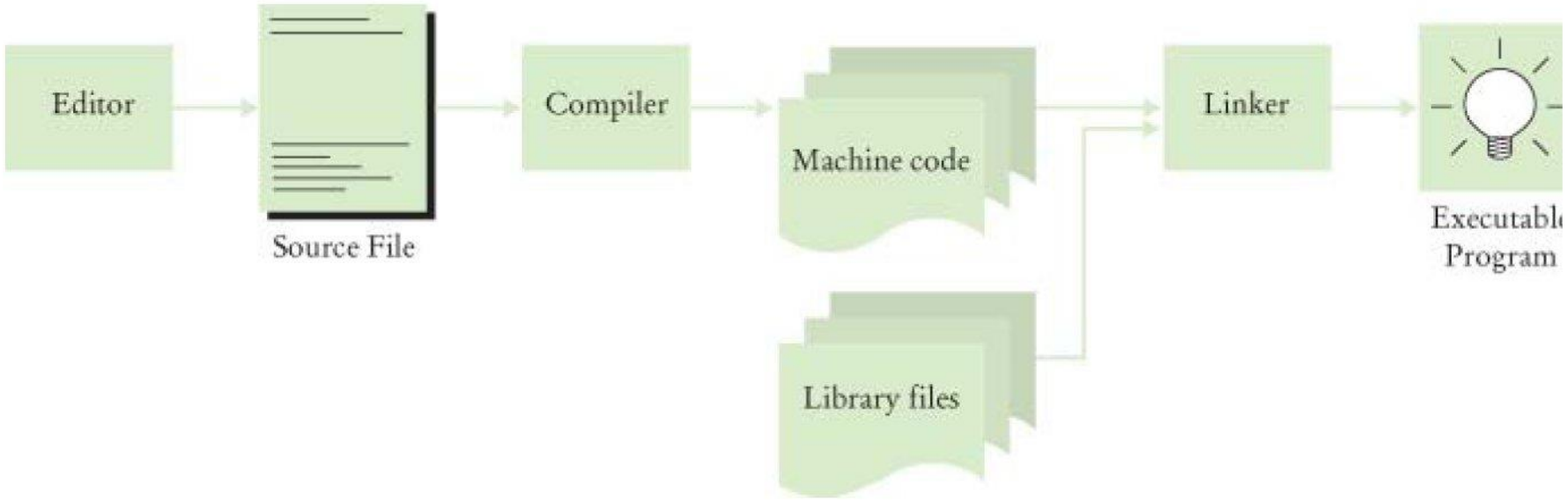
```
#include <iostream>

using namespace std;

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

Programming in Dev C++

Our first program: **Hello World**



Compilation



From C+++ for Everyone

Programming in Dev C++

If no errors are reported, the compiler creates an executable version of the code which we can run directly by:

- Clicking "execute" or "run" button in the menu, or
- Execute -> Run menu option or
- F9 function key.

Programming in Dev C++

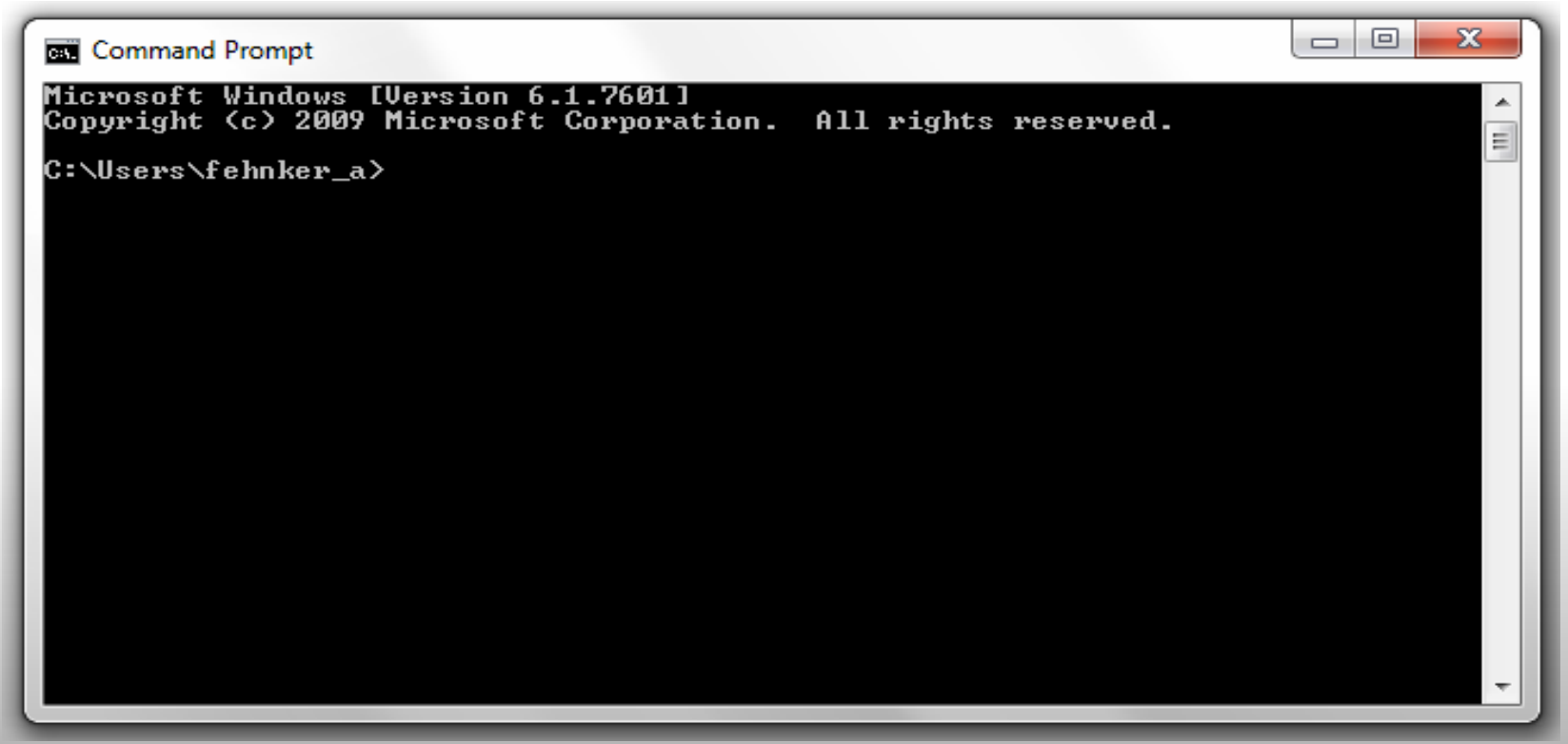
Unfortunately, unlike most glamorous windows programs, the output produced by our programs will be on a DOS screen.

Sometimes referred to *console* based programming

Programming in Dev C++

Console!

START -> Programs -> Accessories -> Command Prompt



Programming in Dev C++

Note: if you change your program and click the execute button without compiling first, Dev C++ uses the previous compiled executable version of the code.

Rule of thumb:

Always compile your program before running ‘em.

Programming in Dev C++

CONGRATULATIONS!

If it works.

However, being a programmer we must realize that a working program will not necessarily do the right thing you intend it to do.

There is an art and a craft in getting a program to

- Work without bugs.
- Do what you want it to do.

HOW? We'll tell you in this course.

Ethics of Programming

Now that you have written your first program, some rules:

A programmer must...

- Never **take credit** for another's work.
- Always **acknowledge** the work of other programmers.
- Never write code that is intentionally difficult to understand.
- Never conceal the **deficiencies** of other programmers by writing code for them and allowing them to pass it off as their own work.
- Never reuse **copyrighted code** unless the proper license is purchased or permission is obtained.
- **Stay current** on the advancement of the field of Computer Science.

Ethics of Programming

A programmer must...

- Never falsely **deny** the presence of bugs.
- Never intentionally introduce **bugs**.
- Never write code that is deliberately **inefficient**
- Never write documentation that is intentionally confusing or inaccurate.
- Never dishonestly **downplay** the difficulty of completing a project.
- Never **reveal** the confidential knowledge or code.
- Never **misrepresent** their knowledge, experience, or abilities.

Ethics of Programming

Many organizations have their code of conducts, or code of ethics:

- The previous list of rules was taken from http://www.gammadyne.com/ethics.htm
- See Moodle for the Code of Conduct of the Australian Computer Society (ACS).
- Of course, there are also the university rules on plagiarism.