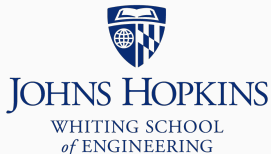


Course conventions

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Source markdown available at github.com/BenLangmead/c-cpp-notes

Course conventions

C standard used is C99

- I will explicitly discourage use of variable length arrays

C++ standard: C++11

- I will delay introducing some C++11 features like auto and ranged-for

When I code live in the classroom, I use emacs

These slides will provide occasional emacs tips

Feel free to use your preferred editor; you might choose one with:

- Syntax highlighting (different colors denote different parts of the program)
- Integration with `git`
- Stronger integrations with the compiler
 - E.g. highlighting compiler warnings & errors

Code

Slides will often present source code

Where possible, code for full program will be shown:

```
#include <stdio.h>
```

```
int main() {  
    int x = 71;  
    float y = 5.0 / 9.0 * (x - 32);  
    printf("%0.2f", y); // print up to 2 decimal places  
    return 0;  
}
```

When code is too long to fit, I use ... to denote elided code

```
class GradeList {
public:
    ...
    void add(double grade) {
        grades.push_back(grade);
    }
    ...
private:
    std::vector<double> grades;
    ...
};
```

Slides will also sometimes present shell commands:

```
$ gcc hello_world.c -std=c99 -pedantic -Wall -Wextra  
$ ./a.out  
Hello, world!
```

\$ prefixes a command you would enter at the shell prompt (excluding the prompt \$ itself)

Output is shown just after the command that generates it

- `./a.out` prints `Hello, world!`

Slides do not assume much Linux proficiency

- I assume you know something about *standard streams*...
 - Standard input
 - Standard output
 - Standard error
- ...and input and output redirection, e.g.:
 - `cat file.txt | ./a.out`
 - `echo "Hello world" | ./a.out`
 - `./a.out > /dev/null`

Commands and outputs are run in / transcribed from a shell session run in a Fedora 27 Docker container

You can use the same image, but it's not necessary

- Available at: hub.docker.com/r/benlangmead/c-cpp-notes/
- Software versions:
 - gcc-7.2.1
 - g++-7.2.1
 - gdb: Fedora 8.0.1-33.fc27
 - valgrind-3.13.0
 - git v2.14.3

If you are using a different software setup than the one described on the previous slide, you may see different compiler warnings and errors than we show

You may also experience different error messages or symptoms at runtime