

CSE250 Fall 2016

Assignment A0 – Hello World

Due: 09/11/2016, 11:59PM

Last updated: 2016-08-31 21:58

Objectives

- Learn to edit, compile and run a simple C++ program.
- Get experience with the submission system.

Instructions

1. Using common **shell commands** create directory A0 in your working (e.g. home) directory. We will use this directory to keep all files related to this assignment. Enter the directory.
2. Using your favorite editor (e.g. atom, emacs, gvim) create file a0.cpp and save it in your A0 directory. Copy the following code into a0.cpp:

```
// File: a0.cpp
#include <iostream>
#include <string>

int main() {
    // set your name
    std::string name = "First Last";

    // set to true if code was tested
    bool has_tested = false;

    // set number of tests
    int num_tests = 1;

    std::cout << name;

    if (has_tested) {
        std::cout << " performed " << num_tests << " test(s)" << std::endl;
    } else {
        std::cout << " was lazy" << std::endl;
    }

    return 0;
} // main
```

3. Edit the code so that it correctly outputs information requested in the comments.

4. One way to compile and test your code is to invoke a C++ compiler directly on the .cpp file you created. To do this, you can run the following command in a terminal (make sure that you are in A0 directory):

```
g++ -std=c++11 -O2 -Wall a0.cpp -o a0
```

Here, g++ invokes **GNU C++ compiler**, -std=c++11 sets compiler to work in the C++11 standard, -O2 instructs compiler to optimize the code (to make it faster if possible), and -Wall asks compiler to print all, if any, warnings regarding your code. This will create ready to run program a0. To invoke it, run in a terminal:

```
./a0
```

5. To automate the compilation process (important for larger projects) we will use very basic make build system. Create a new file and name it Makefile. This file will be a recipe for make how to build your program. Copy the code below into it (make sure that there is one tab before rm -rf a0):

```
CXX=g++
CXXFLAGS=-std=c++11 -O2 -Wall

all: a0

clean:
    rm -rf a0
```

Now to build your program you can simply run make and to remove compiled code you can run: make clean.

Submission

1. Remove your binary code by running make clean.
2. Create a tarball with your A0 folder by running in a terminal:

```
cd ../
tar cf A0.tar A0/
```

3. Follow to <https://autograder.cse.buffalo.edu> and submit A0.tar for grading.
4. You have unlimited number of submissions, however, any submission after the deadline will have 50% points deducted.

Grading

- 100pt: a0.cpp compiles via make and runs.

Remarks

- You should consider reading more about make and C++ compilation process, although it is not strictly required.
- Subsequent assignments will not be that easy!