PA0

This assignment will not be graded but you have submit it.(apply every step). If you don't submit or if you submit a dummy one without properly following the steps, you will be one step closer to getting `NA` or `FF` (If you don't submit 3 or more PA's, you will fail the class)

Step 1: Setup a compiler suite for compiling c programs.

This semester, we are going to use `GCC`. You can download the binary version of `GCC` for different operating systems.

Windows

- Download and setup `MinGW` compiler binaries from (http://www.mingw.org/)
- Add MinGW executable directory to the system PATH environment variable.
- `gcc` will be callable from Windows Command Line Interface.

Linux/Unix

- Make sure that your distribution has `gcc` installed.
- Most distributions come with the necessary build tools installed. In order to test it, just try to call `gcc`. If the package is missing, download it using the available package manager.

MacOS

- A version of `GCC` is available for macOS. You don't need setup `xcode` but you need a developer account in order to download a command line version of the required build environment.
- Once you have your developer account ready, you can download and install the command line tools (https://developer.apple.com/downloads/index.action#)
- After the installation, `gcc` will be available to you from terminal interface.

Other Compilers There are other `c/c++` compilers. Some operating systems come with a default compiler. For example, recent versions of Macos come with `clang`. Windows has its own default compiler(you have to install it). There is a less popular Intel compiler which can create optimized binaries for Intel processors. You can use any compiler you like. In some rare cases, different compilers can create different behaving binaries. Since this course is an introductory course, we are not going to cover every little implementation detail of the `C` language standard. `GCC` is chosen to be the common ground in order to minimize "surprising" disagreements between the instructor and the student.

Step 2: Execute the necessary commands and print the installed `gcc` version.

Execute: `gcc -v`.

Step 3: Install a "programmer's" text editor

You can choose to install Visual Studio Code, Sublime Text, Atom... Don't use notepad. Don't use notepad++. Linux distributions come with a usable text editor but you can find better alternatives. My advice is Visual Studio Code. You can install extensions related with `C` programming language. **You are not allowed to use IDEs (integrated development environments).**

Step 4: Compile a "Hello World" source and run it.

Open your text editor and create a source file `helloworld.c`. Write the following code to the source file. Save the file. Open a terminal window, go to the directory of the source file and compile it. (`gcc helloworld.c`). This will create an executable in the same directory (`a.exe` on windows, `a.out` in unix-like operating systems.). In order to run the executable you type `a.exe` on Windows, `./a.out` on unix-like operating systems. You should see `Hello World` text printed on terminal window.

```c
#include <stdio>

int main(void)
{
    printf("Hello World\n");
    return 0;
}
```

Step 5: Submit `<full_name>_PS0.txt` file which contains the following:

- Your operating system info.
- The text editor you use.
- The compiler version (include the info printed in "Step 2")
- If you name is "Frodo Baggins", the name of the test file will be `Frodo_Baggins_PS0.txt`
- **Do not create any file archive(zip, rar, tar...)**. You will submit one file and it has to be a proper text file. Other formats will not be accepted.

Step 6: Read about `end-of-line` distinction between different operating systems.

`On Windows, line-endings are terminated with a combination of a carriage return (ASCII 0x0d or \r) and a newline(\n), also referred to as CR/LF. On the Mac Classic (Mac systems using any system prior to Mac OS X), line-endings are terminated with a single carriage return (\r or CR). (Mac OS X uses the UNIX convention.)`

Search Google for further information. You are going to need this info later.