Practice: C Programming with OneCompiler

Objective

The goal of this tutorial is to introduce students to writing, compiling, and running simple C programs using OneCompiler.com.

This is important so that you can complete your assignments & follow along with me in class while coding ("code along") if you wish.

Getting Started with OneCompiler

1. Open your web browser and go to https://onecompiler.com/c
2. Click on "New Program" and select "C" as the programming language.
3. You will see a default template with a simple C program.

Creating a new C file in OneCompiler

OneCompiler has two organisational levels: 1) code, 2) file, and we'll change them both.

1. Delete the existing code to start with your own program.

2. Click on the pen in the middle of the page to change the name of the code to `"Hello World"` and add a short description:

   > First program with OneCompiler. CSC 100 class practice: 01/17/2025.

3. Add the tag `helloworld`. Tags help greatly with search + find.
4. Check the `Visibility`, change it to `Unlisted (People with the Link)`, and click on `Save`.
5. Open the main menu (three horizontal lines, upper left side) and choose `My Account`.
6. Click on `CODES`. You should see the last code you edited. If you use dark mode (button at top of the page), you won't see the tag. In the settings (three dots) you can change the visibility or delete the code.
7. Click on the name of your code to get back to the editor view.
8. Hovering over the filename `NewFile1.c`, find the edit pen: In the popup, enter a new file name: `helloworld.c`.
9. To clean the slate, open the settings (three dots) and choose `Clear Output`. You can also download your file from here.
10. Open the setting again, and choose `Editor Settings`. In the popup, check `Disable Code Autocomplete/Suggestions`.

Basic Structure of a C Program

Every C program has a basic structure:

- Header information (*preprocessor*)
- `main` program ending with `return 0;`
- Program body enclosed in `{ }`
- Comments (optional) followed by `//`

```c
#include <stdio.h> // preprocessor: include input/output header file

// main program
int main() { // start of main program body
  puts("Hello, World!"); // print a string and go to the next line
  return 0; // return from main program if successful
} // end of main program body
```

```
Hello, World!
```

Your task:

1. Type the program (with comments) into the editor.
2. At the end of each line, press `Enter`.
3. At the start of a new line, press `TAB` to indent
4. The file is automatically saved.
5. Click `RUN` (or `CTRL + ENTER`) and check the `Output` field.

Downloading and uploading files

1. Add a program header. Adapt the header below to your own program:

```c
/*****************************************/
/* helloworld.c: Print greeting string   */
/* Input: none                           */
/* Output: Hello, world!                  */
/* Author: Marcus Birkenkrahe            */
/* Date: 1/4/2025                        */
/*****************************************/
```

2. After making sure that the program (still) produces the desired output, `Download` it to your PC using the settings menu (three dots) as `helloworld.c`.
3. Open Canvas and find the `Getting started with OneCompiler` assignment.
4. Upload the `helloworld.c` file.
5. Upload the link (URL) to the online file. You find it in the status bar of your browser. Mine is: https://onecompiler.com/c/43546aswu

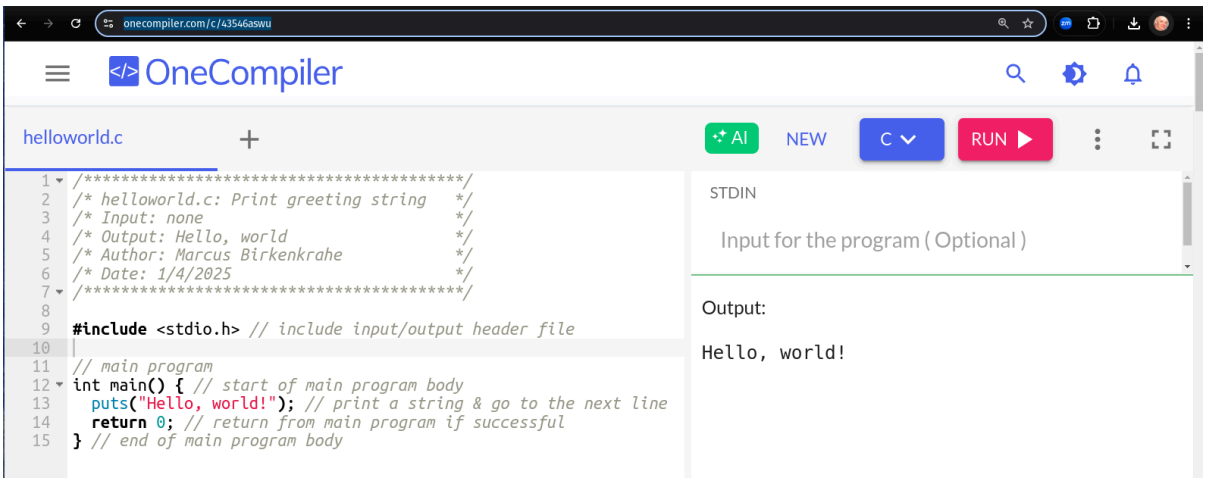

Figure 1: Final result in OneCompiler.com

Extensions

- Below the editor, there is extensive Syntax help for C programming, check it out. You can also get to this with the `How to (Wiki)` selection in the settings.
- OneCompiler offers a nice free C tutorial if you want to work ahead. You find it in the top menu (three horizontal lines).
- There are programming challenges (some of which we'll be doing in and outside of class). You have to pick your language.
- There are cheatsheets, as a useful reference or a condensed overview of an advanced topic - check out `C++ Programming language`.
- Next time you want to get back straight to the C editor, go to `onecompiler.com/c`.

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