# Classwork 4: Input & Output

**In-class Date: Wednesday 28 February**
**Due Date: Wednesday 06 March**

## Objectives

Practice using `printf()`, `scanf()`, and variables.

## Assignment

Write a program that asks for the user's name and height in inches. Your program then replies with the user's name and height in centimeters. A sample run of your program should look like this:

```
[arsenaul@linux1 cw4]$ gcc -Wall height.c
[arsenaul@linux1 cw4]$ ./a.out
What is your name? Batman
How tall are you in inches? 78
Hello, Batman. You are 198.12 centimeters tall.
[arsenaul@linux1 cw4]$
```

**Reminder:** Assignments are an independent effort. This is not a group effort. Assignments are checked to ensure they aren't too similar to that of other students'.

## Notes

1. Login to GL and make sure you are in your home directory (`pwd`).
2. Change directory to "cw4" (`cd cs104/cw4`) so you can do this assignment in the designated workspace.
3. Type "nano height.c" to start the source code file for this assignment.
4. Start with this source code:

```
/*************************************
** File:        height.c
** Author:      <studentName>
** Date:        <date>
** Section:     CMSC104 Section 2
** E-mail:      <username>@umbc.edu
**
** This file contains the main program for Classwork 4.
** The program reads in a name and height in inches
** from the user, greets them, and tells them their
** height in centimeters.
*************************************/
```

```
// What is the file we have to include for printf() and scanf()?

int main() {
   char name[20];                   /* User's name (no spaces) */
   <data_type> heightInInches;      /* User's height in inches */
   <data_type> heightInCentimeters; /* User's height in centimeters */

   // Prompt for user's name

   // Prompt for user's height in inches

   // Calculate how many centimeters from number of inches

   // Greet the user and tell them how many centimeters tall they are

   return 0;
}
```

5. Fill in the necessary items:
   (a) Prior to "int main()", what is the line of code we need? Hint: begins with "#include".
   (b) For the two height variables, fill in the "<data_type>" items with the appropriate data type. Is it an integer or float?
   (c) Fill in the code block where you ask the user for their name, store the result.
   (d) Fill in the code block where you ask the user for their height, store the result.
   (e) Multiply the height in inches by 2.54, store as the height in centimeters variable.
   (f) Fill in the code block where you present the user with the last line of text, showing their name and height in centimeters.

## Extra Credit

Use the appropriate code in `printf()` to only show two values after the decimal when printing the user's height in centimeters.

## Grading Rubric

- Compiles: 50 points
- Accurate calculation: 40 points
- Typescript: 10 points
- Extra Credit: +5 points

## What to Submit

Use the `script` command to record yourself compiling and running your program three times with different names and numbers. Do not record yourself editing the code!! Submit your code and "typescript" file.

```
[arsenaul@linux1 cw4]$ submit cmsc104_arsenaul cw4 height.c typescript
```

### Verify Submission

```
[arsenaul@linux1 cw4]$ submitls cmsc104_arsenaul cw4
```