

CS 111 - Homework 7

Deadline

11:59 pm on Friday, October 23, 2026

Purpose

To get more comfortable and familiar with C++ simple expressions and basic data types, and to practice again compiling and running another (provided) C++ program in the CS50 IDE at <https://cs50.dev/>.

How to submit

You complete **Problems 1, 2, and 3** on the course Canvas site (short-answer questions on C++ simple expressions and basic data types), so that you can see if you are on the right track.

Then, you will submit your work for **Problem 4**, in your files **111hw7.cpp** and **111hw7-out.txt**, on the course Canvas site.

Important notes

- If you did not complete the Week 8 Lab Exercise, follow the link "Week 8 Lab Exercise" on the course Canvas site, under Modules, in the Lab Exercises section, for instructions on getting a GitHub account, which is used as part of the CS50 IDE setup.
- ALONG WITH submitting partial work on your homework assignments throughout the week, BE SURE to **download** copies of your **.cpp** and **.txt** files from the CS50 IDE **regularly** -- the CS50 IDE is a cloud-based IDE, so keeping such backups is important!

Problem 1 - 20 points

Problem 1 is correctly answering the "HW 7 - Problem 1 - Short-answer questions on C++ simple expressions and basic data types - getting started" on the course Canvas site.

Problem 2 - 32 points

Problem 2 is correctly answering the "HW 7 - Problem 2 - Short-answer questions giving the types for C++ simple expressions - multiple-choice" on the course Canvas site.

Problem 3 - 32 points

Problem 3 is correctly answering the "HW 7 - Problem 3 - Short-answer questions giving the types for C++ simple expressions - short-answer" on the course Canvas site.

Problem 4 - 16 points

Practice, again, compiling and running a provided program that you modify slightly in the CS50 IDE, as you did in the Week 8 Lab Exercise.

- Open the CS50 IDE: <https://cs50.dev/>
 - You probably will **not** have to log in again -- but if you are asked to, sign in with your GitHub login.
- There is a file **111hw7.cpp** posted along with this handout.
 - In the CS50 IDE, create a new file, name it **111hw7.cpp**, and open it.
 - COPY the contents of the posted **111hw7.cpp** file and PASTE them into your **111hw7.cpp** within

the CS50 IDE.

- In the CS50 IDE, EDIT your **111hw7.cpp** to contain YOUR NAME in the comment in the beginning (about line 14), and to contain YOUR NAME in the `cout` statement on about line 80, and **SAVE** your file (File menu -> Save, or type Control-S (Windows) or Command-S (Mac))
- READ through this file **111hw7.cpp** -- we'll be talking more about C++ functions this week, and you can see some examples here.
 - OPTIONAL: IF you would like, you can add additional **cout** statements at the end of the **main** function to try out printing the values of different expressions to standard output.
- RIGHT-CLICK on the file's name **111hw7.cpp** on the left-hand-side, SCROLL down, and select "**Open in Integrated Terminal**" -- this opens a Terminal whose current folder IS the folder with your file **111hw7.cpp**
 - OR, you can use the **cd** command in the Terminal to change its current working directory to the folder with your file **111hw7.cpp**.
- To **COMPILE** your program, IN a Terminal whose current directory is the folder containing your **111hw7.cpp**, enter:
g++ 111hw7.cpp -o 111hw7
- IF you have no compiler errors, then to **RUN** your program, IN the Terminal, enter:
./111hw7
(there are **NO** BLANKS here!)
- When you are satisfied with your program's output, go to the next step.
- In the Terminal, you can **redirect** the (standard) output of a command to a file by following that command with:
> desired_file_name
 - So, create an example output from running your program to submit to Canvas by running the following command in a Terminal whose current directory is the folder containing your program:
./111hw7 > 111hw7-out.txt
- RIGHT-CLICK again on the file's name **111hw7.cpp** on the left-hand side, SCROLL down, and select "**Download**" to download a copy of your **111hw7.cpp** to the local or Google drive folder of your choice.
Also download a copy of your file **111hw7-out.txt** the same way.
- Now **SUBMIT** your downloaded files **111hw7.cpp** and **111hw7-out.txt** to Canvas as your Homework 7 - Problem 4 submissions.