

This is CS50x

OpenCourseWare

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Mario

If you already started to work on Problem Set 1 in CS50 Lab, you may **continue working on it** (<https://lab.cs50.io/cs50/labs/2020/x/mario/more/>) there. If you're just now starting to work in this problem, be sure to use CS50 IDE instead by following the instructions below!

World 1-1

Toward the beginning of World 1-1 in Nintendo's Super Mario Brothers, Mario must hop over adjacent pyramids of blocks, per the below.



Let's recreate those pyramids in C, albeit in text, using hashes (#) for bricks, a la the below. Each hash is a bit taller than it is wide, so the pyramids themselves are also be taller than they are wide.

```
# #
## ##
### ###
#### ####
```

The program we'll write will be called `mario`. And let's allow the user to decide just how tall the pyramids should be by first prompting them for a positive integer between, say, 1 and 8, inclusive.

Here's how the program might work if the user inputs `8` when prompted:

```
$ ./mario
Height: 8
```

```
  #  #
 ## ##
### ###
#### ####
##### #####
##### #####
##### #####
##### #####
##### #####
```

Here's how the program might work if the user inputs 4 when prompted:

```
$ ./mario
Height: 4
  #  #
 ## ##
### ###
#### ####
```

Here's how the program might work if the user inputs 2 when prompted:

```
$ ./mario
Height: 2
  #  #
 ## ##
```

And here's how the program might work if the user inputs 1 when prompted:

```
$ ./mario
Height: 1
  #  #
```

If the user doesn't, in fact, input a positive integer between 1 and 8, inclusive, when prompted, the program should re-prompt the user until they cooperate:

```
$ ./mario
Height: -1
Height: 0
Height: 42
Height: 50
Height: 4
  #  #
 ## ##
### ###
#### ####
```

Notice that width of the "gap" between adjacent pyramids is equal to the width of two hashes, irrespective of the pyramids' heights.

Create a new directory called `mario` inside of your `pset1` directory by executing

```
~/ $ mkdir ~/pset1/mario
```

Create a new file called `mario.c` inside your `mario` directory. Modify `mario.c` in such a way that it implements this program as described!

Walkthrough



How to Test Your Code

Does your code work as prescribed when you input

- -1 (or other negative numbers)?
- 0?
- 1 through 8?
- 9 or other positive numbers?
- letters or words?
- no input at all, when you only hit Enter?

You can also execute the below to evaluate the correctness of your code using `check50`. But be sure to compile and test it yourself as well!

```
check50 cs50/problems/2020/x/mario/more
```

Execute the below to evaluate the style of your code using `style50`.

```
style50 mario.c
```

How to Submit

Execute the below, logging in with your GitHub username and password when prompted. For security, you'll see asterisks (`*`) instead of the actual characters in your password.

```
submit50 cs50/problems/2020/x/mario/more
```