This is CS50

CS50's Introduction to Computer Science

OpenCourseWare

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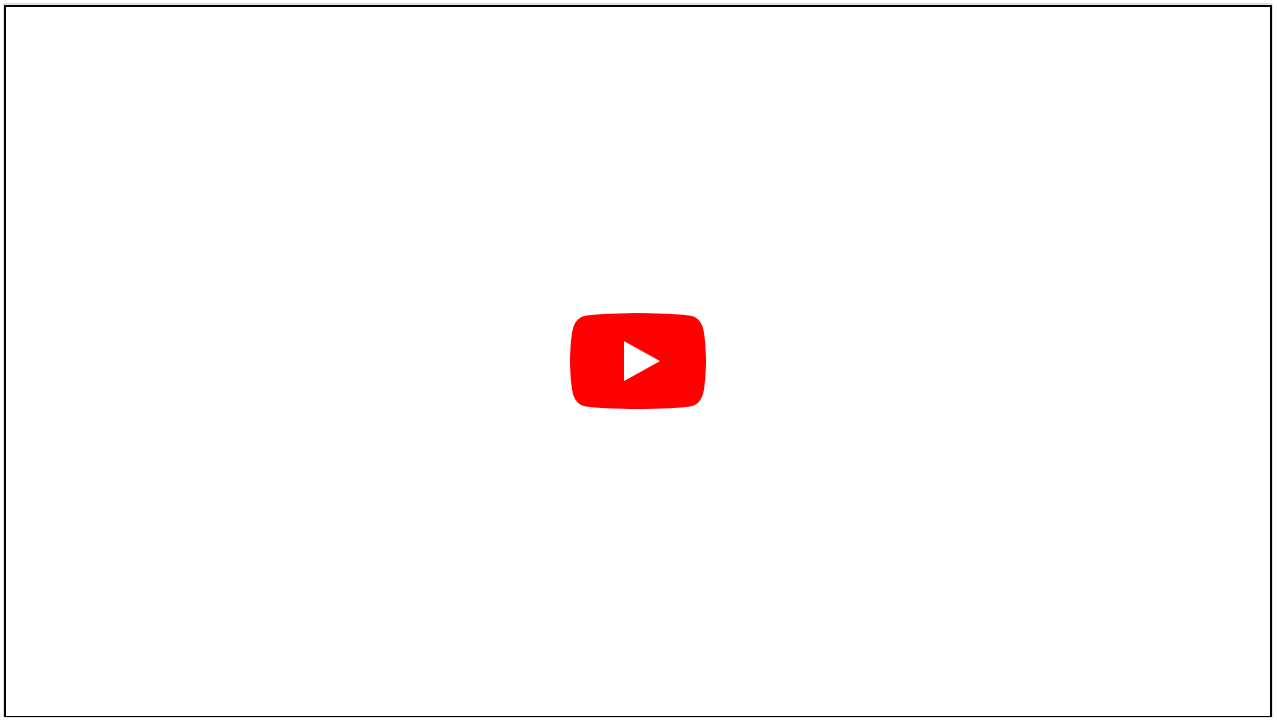
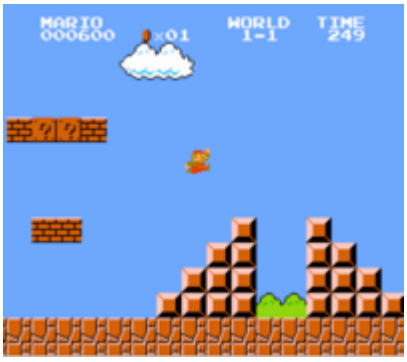
Mario



Problem to Solve

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



In a file called `mario.c` in a folder called `mario-more`, implement a program in C that recreates that pyramid, using hashes (`#`) for bricks, as in the below:

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

And let's allow the user to decide just how tall the pyramids should be by first prompting them for a positive `int` between, say, 1 and 8, inclusive.

▼ Examples

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:

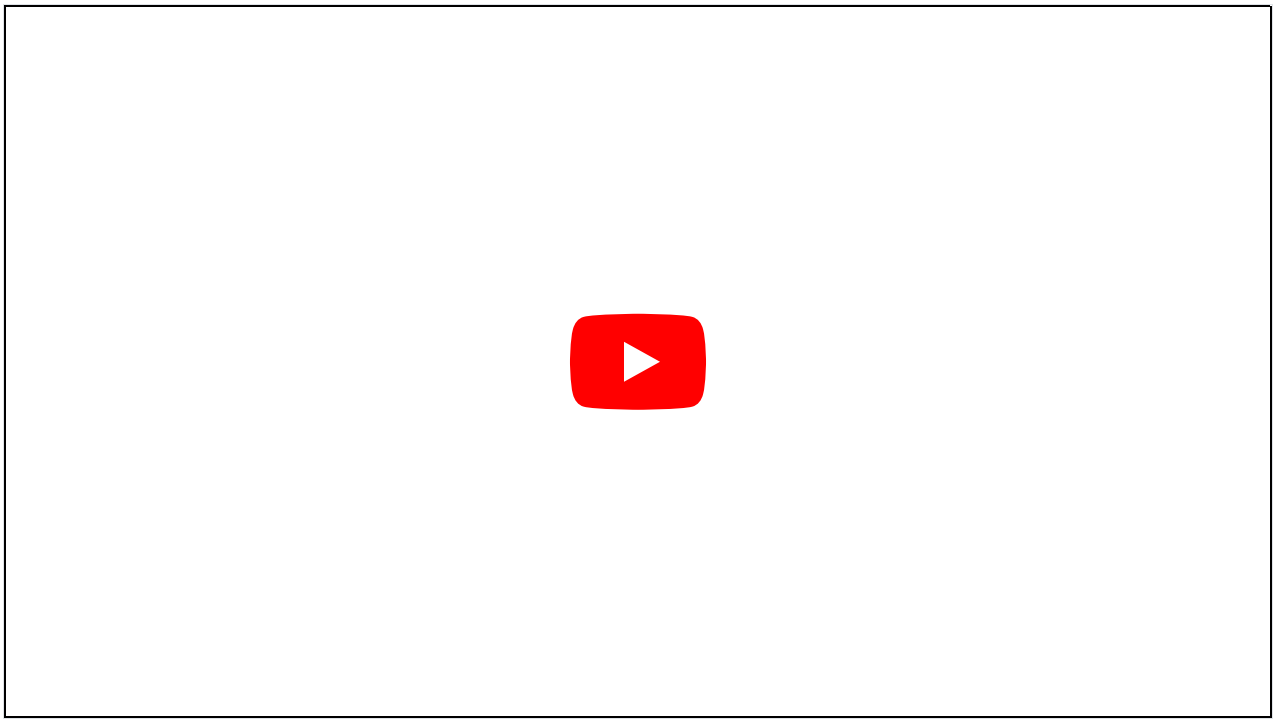
```
$ ./mario
Height: 1
#  #
```

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.

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!

Correctness

In your terminal, execute the below to check your work's correctness.

```
check50 cs50/problems/2024/x/mario/more
```

Style

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

```
style50 mario.c
```

How to Submit

In your terminal, execute the below to submit your work.

```
submit50 cs50/problems/2024/x/mario/more
```