

This was CS50

Harvard Extension School (<https://www.extension.harvard.edu/>)

Fall 2020

Mario



Implement a program that prints out a half-pyramid of a specified height, per the below.

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

Specification

- Write, in a file called `mario.py` in `~/pset6/mario/less/`, a program that recreates the half-pyramid using hashes (`#`) for blocks, exactly as you did in [Problem Set 1](#), except that your program this time should be written in Python.
- To make things more interesting, first prompt the user with `get_int` for the half-pyramid's height, a positive integer between `1` and `8`, inclusive.
- If the user fails to provide a positive integer no greater than `8`, you should re-prompt for the same again.
- Then, generate (with the help of `print` and one or more loops) the desired half-pyramid.
- Take care to align the bottom-left corner of your half-pyramid with the left-hand edge of your terminal window.

Usage

Your program should behave per the example below.

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

Testing

While `check50` is available for this problem, you're encouraged to first test your code on your own for each of the following.

- Run your program as `python mario.py` and wait for a prompt for input. Type in `-1` and press enter. Your program should reject this input as invalid, as by re-prompting the user to type in another number.
- Run your program as `python mario.py` and wait for a prompt for input. Type in `0` and press enter. Your program should reject this input as invalid, as by re-prompting the user to type in another number.
- Run your program as `python mario.py` and wait for a prompt for input. Type in `1` and press enter. Your program should generate the below output. Be sure that the pyramid is aligned to the bottom-left corner of your terminal, and that there are no extra spaces at the end of each line.

```
#
```

- Run your program as `python mario.py` and wait for a prompt for input. Type in `2` and press enter. Your program should generate the below output. Be sure that the pyramid is aligned to the bottom-left corner of your terminal, and that there are no extra spaces at the end of each line.

```
#  
##
```

- Run your program as `python mario.py` and wait for a prompt for input. Type in `8` and press enter. Your program should generate the below output. Be sure that the pyramid is aligned to the bottom-left corner of your terminal, and that there are no extra spaces at the end of each line.

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

- Run your program as `python mario.py` and wait for a prompt for input. Type in `9` and press enter. Your program should reject this input as invalid, as by re-prompting the user to type in another number. Then, type in `2` and press enter. Your program should generate the below output. Be sure that the pyramid is aligned to the bottom-left corner of your terminal, and that there are no extra spaces at the end of each line.

```
#  
##
```

- Run your program as `python mario.py` and wait for a prompt for input. Type in `foo` and press enter. Your program should reject this input as invalid, as by re-prompting the user to type in another number.
- Run your program as `python mario.py` and wait for a prompt for input. Do not type anything, and press enter. Your program should reject this input as invalid, as by re-prompting the user to type in another number.

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/fall/sentimental/mario/less
```

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

```
style50 mario.py
```

This problem will be graded only along the axes of correctness and style.

How to Submit

1. Download your `mario.py` file by control-clicking or right-clicking on the file in CS50 IDE's file browser and choosing **Download**.
2. Go to CS50's [Gradescope page \(https://www.gradescope.com/courses/157004\)](https://www.gradescope.com/courses/157004).
3. Click "Problem Set 6: Sentimental (Mario Less)".
4. Drag and drop your `mario.py` file to the area that says "Drag & Drop". Be sure it has the correct filename!
5. Click "Upload".

You should see a message that says "Problem Set 6: Sentimental (Mario Less) submitted successfully!" You won't see a score just yet, but if you see the message then we've received your submission!

