

CS417 Programming Assignment 3

Due: Wednesday, February 19, before midnight.

Late penalty: Thu 5%, Fri 10%, Sat/Sun/Mon 20%, Tue 50%, Wed 100%.

Synopsis

Write a program called `banner.py` that prints large text on the terminal.

Details

Your program should work with text, supplied through command-line arguments. It should join the arguments into a single message, with words separated by spaces. Then, it should print out the message, using X's arranged in 5×7 blocks.

For example, if the user runs the program thus:

```
python banner.py Hello WORLD HOW are you
```

The program should print this:

```
X  X      XX  XX      X  X XXX XXXX X      XXXX      X  X
X  X      X   X      X  X X  X X  X X      X  X      X  X
X  X XXX  X   X      XXX      X  X X  X X  X X      X  X      X  X
XXXXX X  X  X  X  X  X  X  X  X XXXX X      X  X      XXXXX
X  X XXXXX X  X  X  X  X  X  X X X  X  X      X  X      X  X
X  X X      X  X  X  X  X  XX XX X  X X  X  X      X  X      X  X
X  X XXXX  X  X      XXX      X  X XXXX XXXX      X  X
```

```
XXX X  X
X  X X  X      XXX      X  X
X  X X  X      X X XX  XXX      X  X XXX X  X
X  X X X X      XX X XX X X  X      XXXX X  X X  X
X  X X X X      X XX X      XXXXX      X X  X X  X
X  X XX XX      X XX X      X      X  X X  X X XX
XXX X  X      XX X X      XXXX      XXX XXX XX X
```

Notice the following details:

- Each character is displayed in a block of X's and spaces. Each block is 5 wide, and 7 high.
- In the output, there is a single blank line between each line of blocks. There is also a single blank column between blocks.
- Each output line has at most 79 X's and spaces, or at most 13 blocks.
- If the text is longer than 13 characters, it should wrap to start a new line, ignoring word boundaries.

Blocks

I am providing a file with 5×7 blocks, called `matrix_5x7.txt`. Here is a sample from that file:

A

```
--*--  
_ * _  
* _ *  
* _ *  
*****  
* _ *  
* _ *
```

B

```
****_  
* _ *  
* _ *  
* _ *  
****_  
* _ *  
* _ *  
* _ *  
****_  
_
```

C

```
_***_  
* _ *  
* _  
* _  
* _  
* _  
* _ *  
_***_  
_
```

Notice that each symbol is represented using 8 lines of the file: the first line has the symbol, and the next 7 lines have the block, using `*` and `_` characters.

Special Characters

Warning: on Linux, OSX, and Windows, some characters have special meaning. For example, the asterisk `*` will be replaced by the names of all the files in the current directory! You may have to surround them with quotes:

```
python banner.py a "*" b
```

Character	Meaning
<code>*</code>	expand to all filenames
<code>&</code>	run program in background
<code>></code>	send output to a file
<code><</code>	read input from a file
<code> </code>	send output to another program's input

Turn in your work

To turn you work in, go to mycourses.unh.edu, find CS417 and assignment #3, click the “Submit” button, and upload `banner.py`