

For loop patterns

5/13/2024

30 Points Possible

Attempt 1



In Progress

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Unlimited Attempts Allowed

5/6/2024 to 5/14/2024

Details

In this assignment, you will write a program that creates patterns using for-loops given the size - an odd number between 7 and 15 (both inclusive).

This program

- Asks for size (an odd number between 7 and 15 (both inclusive))
- Validates that size is an odd number between 7 and 15 (both inclusive) See the first sample run to see validation.
- Prints two patterns based on the given size.
 - Pattern 1: A pattern of (, * and) as shown below in the sample programs. This pattern has as many lines as the size of the pattern (user input) with each line having $2 \times \text{size} + 1$ characters total.
 - Pattern 2: A pattern with mirror image made up of letter "A" (See sample runs below). Hint: Split the figure in top-half and bottom-half parts, drawing them with two different for-loops. Look at each pattern closely and come up with a formula for the number of 'A's and number of spaces required on each row in the pattern.

Add a comment block at the top of the file, providing your name, date, assignment name etc. Save the program to a file with a name of the format `first_last_forloops.py` and submit it as your solution.

Sample run 1 with validation and size = 7

Course Chat



```

Welcome to pattern generator
Please enter the size(an odd number between 7 and 15): -3
Size should be an odd number between 7 and 15.
Please enter the size(an odd number between 7 and 15): 8
Size should be an odd number between 7 and 15.
Please enter the size(an odd number between 7 and 15): 7
Pattern 1 of size 7
(*****
((*****))
(((*****)))
((((*****))))
(((((*)))
Mirror image pattern of size 7
A          A
AA         AA
AAA        AAA
AAAA       AAAA
AAAAA      AAAAA
AAAAAA     AAAAAA
AAAAAAAAA  AAAAAA
AAAAAA     AAAAAA
AAAAA      AAAAA
AAA        AAA
AA         AA
A          A

Bye
>>>

```

Sample Run 2: size = 9

```

Welcome to pattern generator
Please enter the size(an odd number between 7 and 15): 9
Pattern 1 of size 9
*****
((((((((*****)))))))))
((((((((*****)))))))))
((((((((*****)))))))))
((((((((*****)))))))))
((((((((*****)))))))))
((((((((*****)))))))))
((((((((*****)))))))))
((((((((*****)))))))))
Mirror image pattern of size 9
A          A
AA         AA
AAA        AAA
AAAA       AAAA
AAAAA      AAAAA
AAAAAA     AAAAAA
AAAAAAA    AAAAAAA
AAAAAAAA   AAAAAAAA
AAAAAAAAA  AAAAAAAA
AAAAAAAAA  AAAAAAAA
AAAAAAAAA  AAAAAAAA
AAAAAAAAA  AAAAAAAA
AAAAAAAAA  AAAAAAAA
AAAAAAAAA  AAAAAAAA
AAAAAA     AAAAAA
AAAAA      AAAAA
AAAA        AAAA
AAA         AAA
AA          AA
A           A

Bye
>>>

```

View Rubric

Some Rubric

Criteria	Ratings	Pts
Welcome message printed		/ 1 pts
Prompt the user for size and input validated using a while loop.		/ 5 pts
First pattern printed correctly		/ 10 pts
Mirror image pattern printed correctly using 2 for-loops		/ 10 pts
Code is well written, useful comments added.		/ 4 pts
		Total Points: 0

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