Project 7: X, Y & Xena

COSC 1423 | Fall 2023
Instructor: Megan Avery

Topics: void functions, parameters & arguments

Goal: Write a program to print the letters (X or Y) or a person (Xena)

Turn In Instructions:
A zip file called project07_firstname_lastname.zip containing the following files:
Implementation: Your python file named proejct07_firstname_lastname.py.
⚠️ Documentation: ⚠️
A pdf called project07_firstname_last.pdf that contains your objective definition, test cases, and followup questions.

Objective Definition (15 pts): See Planning Guide

Style (10 pts): See Style Guide

Implementation (55 pts):
You will be implementing a program where the user has a number of choices to make.

1) What symbol do they want to use in their drawing? They can choose anything on their keyboard.
2) What size do they want their drawing to be?
3) Do they want to draw a letter or a person?
4) If they want to draw a letter, X or Y?
5) If they want to draw a person, what face should be used?
    - Options: ^.^ .-. @~@ *_*
    - faces will always be centered above an X

Your task is to not only implement that program but get rid of repetition within the program by creating methods, most of which will need parameters. You will also want to make methods out of chunks of code that it might be nice to have a name, for example: drawing a face for the person.

The code for drawing an X made of asterisks is on the next page:

Test Cases (10 pts): See Project FAQ

Followup Questions (10 pts):

1. How long did this program take you to write?
2. Did you complete the extension? If not, why not?
3. What was the most challenging part of this assignment? Explain.
4. What did you learn from the process of doing this assignment?
5. Explain your usage of AI in this project. What type of queries did you do during development?

Extension (+5 pts):
Update the code so that the size of the drawing is limited to numbers between 1 and 10 inclusive.

Code for Drawing an X based on user size: (attached to project in Canvas as x.py)

```
size = int(input("Size? "))

bounds = size * 2  + 1

for row in range(size + 1):
    for col in range(bounds):
        if row == col or col == bounds - row - 1:
            print("*", end="")
        else:
            print(" ", end="")
    print()

for row in range(size + 1, bounds):
    for col in range(bounds):
        if row == col or col == bounds - row - 1:
            print("*", end="")
        else:
            print(" ", end="")
    print()
```

Sample Runs:

```
Symbol? ^
Size? 4
letter or person? letter
X or Y? X

^       ^
 ^     ^
  ^   ^
   ^ ^
    ^
   ^ ^
  ^   ^
 ^     ^
^       ^
```

```
Symbol? &
Size? 2
letter or person? letter
X or Y? Y

&   &
 & &
  &
  &
  &
```

```
Symbol? $
Size? 6
letter or person? person
Face [cute/meh/wow/neutral]: cute

     ^.^
$           $
 $         $
  $       $
   $     $
    $   $
     $ $
      $
     $ $
    $   $
   $     $
  $       $
 $         $
$           $
```