Exercises V2

- Create a new directory for the exercises during this week and separate files for each exercise.
- Use a main function with the *if __name__ == "__main__"* idiom for all exercises

Hello world with main and functions

Write a hello world program that uses a main function and a function to print hello world.

- Create a main() function that is called when executing the script directly
- Create a say_hello() function that takes a name as a parameter and prints a hearty greeting containing the name

Which is the smallest number function.

Write a function that takes three parameters that should be numbers. Return the value of the smallest as the out parameter of the function.

- Read three inputs from a user
- Write a function that takes three parameters and return the smallest value
- Print the smallest value

Smallest number of n numbers

Read inputs from the user until the user enters a special termination character (defined by you). Write a function that takes a list as a parameter and return the smallest number in that list

- Print information for the user so that they know how to terminate
- Read inputs until a user enters the terminating character
- Write a function that takes the inputs as a list and returns the smallest value in the list this can be achieved by for example sorting the list, check out *sorted()*
- Print the smallest value

Count characters

Write a function that counts the number of a specific character in a string. The function should take a string and a character as input parameters. Read the string and character as input from the user

- Read a test string and the character that should be counted from the user
- Write a function that takes the test string and the char that should be counted as inputs. Return the count of the character in the string as an out parameter
- Print the character count

Print start steps

Write a program that outputs 10 lines of stars with 1 star in the first line, 2 stars in the second line, and so on, as shown below.

```
*
**
***
****
*****
******
*******
```

****
****
****

- Use a for loop that loops 10 times

Print square based on input

Print a square where the edges are the '*' character and the middle is ' '(white space). The size of the square should be read from the user. This example is with width 8:

- A print statement will add a newline so it can only be called once for each row
- You have two different rows either a full row of * or where only the edges are *
- Use str.join() to format the output

Palindrome

A palindrome is a sequence of a character that reads the same backwards as forward. For example, each of the following five digits is a palindrome 12321 55555 45454. Write a program that reads in a five-digit number and determines whether it's a palindrome. If the number is not five digits long display an error message and allow the user to try again.

- You can hardcode this, but python have a smart way to access characters relative to the end of the sequence using negative index