Part 2 - Instructions:

In the file part2.py do the following:

Exercise 1:

- Consider three variables: likes_math (True/False), has_math_homework (True/False), and has_calculator (True/False).
- Write conditions that determine if you're ready to do your math homework based on liking math, having math homework, and having a calculator. Print different messages based on the conditions.

Exercise 2:

Start with a list of numbers and a list of names. Perform the following tasks:

- Sort the list of numbers.
- Combine the two lists into one new list named combined_list.
- Use slicing to create two new lists: one containing only names and the other only numbers.
- Print the newly created lists.

Exercise 3:

With a given sentence, write code that does the following:

- Finds and prints the position of the first occurrence of the word "Python".
- Capitalizes every word in the sentence.
- Checks if the sentence ends with an exclamation mark and prints a boolean result.

Exercise 4:

Given a tuple containing different data types (strings, numbers, lists), try the following:

- Print the element at index 3.
- Attempt to append a new element to the tuple (note the outcome).
- Extract a slice from the tuple containing only strings and print it.

Exercise 5:

- Create a complex dictionary that represents a book. It should include keys for title, author, year, genre, and a list of characters.
- Print the author of the book.
- Add a new character to the list of characters.
- Update the year to the current year.
- Iterate over the dictionary and print out each key and its corresponding value.

Exercise 6:

Read about the length() function then do the following:
https://www.w3schools.com/python/ref_func_len.asp

Write a piece of logic that uses the length of a list to decide an action: (us

- If the list has more than 5 items, print "This list has many items."
- If the list has 1 to 5 items, print "This list has a few items."
- If the list is empty, print "This list is empty."