

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."

