Chapter 3 – Lists and Tuples

**Objective:**

Learn about lists and tuples data structures, their use and functions.

**Relevant material:**

[Learn Python – Full Course for Beginners](https://www.youtube.com/watch?v=rfscVS0vtbw&t=1470s) sections 11-13 (Lists to Tuples).

*See also:* [*list()*](https://docs.python.org/3/library/stdtypes.html#list)[*sort()*](https://docs.python.org/3/library/stdtypes.html#list.sort)[*tuple()*](https://docs.python.org/3/library/stdtypes.html#tuple)[*append() pop()*](https://docs.python.org/3/tutorial/datastructures.html)[*len()*](https://docs.python.org/3/library/functions.html#len)

**Assignment:**

1. Using this list of numbers [2, 7, 3, 99, 43, 12, 56, 17], print it sorted (ascending) after removing its smallest and largest numbers.

(Expected output: [3, 7, 12, 17, 43, 56].

1. **Challenge**: repeat assignment 1 but get the list of number from user. Use the give code to get list of 10 positive numbers from user.

numbers\_list = []  
max\_list\_len = 10  
while len(numbers\_list) < max\_list\_len:  
 new\_number = input(f"Enter number ({len(numbers\_list)+1}/{max\_list\_len}): ")  
 if new\_number.isnumeric():  
 numbers\_list.append(float(new\_number))  
 else:  
 print(f"{new\_number} is not a positive number.")

1. Print last names of all the avengers in this list.

[("Steve", "Rogers"), ("Tony", "Stark"), ("Natasha", "Romanoff"), ("Bruce", "Banner"), ("Clint", "Barton")]

1. **Challenge**: repeat assignment 3 using 1 print statement (Hint: use “for” loop).
2. Add ("Tony", "Banner") and ("Tony", "Rogers") to list and print all names (first and last) in alphabetically sorted order (sorted by first name).
3. **Challenge**: repeat assignment 5 but now sort names by **last** name.

**Solutions**:

Deliver a python script (.py file) with the code solving he above assignments.