Ch 4: Lists and Tuples.

List is a datatype that can store other datatypes.

elements = ['He', "Ar", None, True, 36]
(str, NoneType, bool, int)

elements[0] ⇒ He len(elements) ⇒ 5

elements[0] = "Zn" ⇒ Now elements[0] is Zn not He

list("Python") = ['P', 'y', 't', 'h', 'o', 'n']

Lists can also be sliced :-
print(elements[0:3]) ⇒ ['Zn', 'Ar', None]

Some list functions :-
l = [43, 34, 21, 92, 11]

i. l.sort() = [11, 21, 34, 43, 92] ⇒ list is arranged in ascending order.

ii. l.reverse() = [11, 92, 21, 34, 43] ⇒ A list gets reversed

iii. l.sort(reverse = True) ⇒ [92, 43, 34, 21, 11] ⇒ descending order.

iv. len(l) ⇒ 5 (length of list)

v. max(l) = 92 ⇒ Returns the max value from list.

vi. min(l) = 11 ⇒ Returns the min value from list.

vii. l.append(6) = [43,34,21,92,11,6] ⇒ 6 is added to the end.

viii. l.insert(3, 111) = [43,34,21,111,92,11] ⇒ 111 value gets added to 3rd index
(3 → index, 111 → value)

ix. l.remove(11) = [43,34,21,92] ⇒ 11 gets removed from list

x. l.pop() → removes last element

xi. l.index(43) = 0 → (index of any element)

[more functions on internet]

Tuples - A tuple is a datatype in Python which can't be changed.

tp = (2, 4, 6) → <class 'tuple'>

tp[0] = 7 = Error (This is the property of tuple)
tu-e = () ⇒ empty tuple
tp2 = (1,) → tuple with single element

tp3 = 1, 2, 3 <class 'tuple'>
↳ (no error)

- tuple() constructor

tu = tuple("info") → takes one parameter
print(tu) = ('i', 'n', 'f', 'o')

tv = (2,3,5,2,2,2) → any number of elements can be added-even multiple times!

Mostly used methods :-

a = (2,7,7,7,3)

i) a.count(7) = 3 ⇒ counts if number of times 7 comes.

ii) a.index(3) = 4 ⇒ returns the index of 3.

Write a python program that takes the age of 5 people as input and displays the oldest age & youngest age.