**Beyond the Fundamentals**

\* Basic list

names = [ 'Ammar', 'Omar', 'Mai'] #0, 1, 2,....

print( names[1] )  #Will print : Omar

In Python, each item in a list can be of any data type--so you could combine strings, number, and other types of data in the same list.

\* Dictionary

names = {

    1 : "Ammar",

    2 : "Belal",

    3 : "Omar"

}

print( names[2] ) #Will print : Belal

print( names ) # {1: 'Ammar', 2: ' Belal', 3: 'Omar'}

\* Iterating (loop)

# print numbers in list

nums = [44, 55, 66]

                       #Output

for num in nums:       # 44

    print( num )       # 55

                       # 66

#print multiplication table of 3

i = 1

while i<=10:

    print(i, " x 3 = ", i\*3)

    i = i+1

print("---The end---")

Result:

1 x 3 = 3  
2 x 3 = 6  
3 x 3 = 9  
4 x 3 = 12  
5 x 3 = 15  
6 x 3 = 18  
7 x 3 = 21  
8 x 3 = 24  
9 x 3 = 27  
10 x 3 = 30  
---The end---

\*Strings

age = input("Enter your age: ")

#convert string to int

age\_int = int(age)

print("Your age after 5 years = ", age\_int+5)

concatenation

st1 = "Ammar "

st2 = "Yasser"

print( st1+st2 ) #Ammar Yasser

some methods

str = "ammar yasser al-batawy"

print("No. of 'a' : ", str.count('a')) #No. of 'a' :  6

print(str.capitalize()) #Ammar

print(str.find("z")) #-1

print(str.find("yasser")) #6

#slicing

print( str[1:10]) #mmar yass

Code to copy file to another

inFile = open('in.txt', 'rt') #files in project folder

outFile = open('out.txt', 'wt')

sum = 0

for line in inFile:

    sum += int(line)

    print(line.rstrip(), file= outFile)

print("\nSum = "+str(sum), file= outFile)

outFile.close()

print("Output complete")

in.txt

2  
4  
5

Out.txt

2  
4  
5

Sum = 11

\*Use math module

import math

print( math.pow(3, 2) ) #9.0

print("5! = ", math.factorial(5) ) #5! = 120

print("pi = ", math.pi ) #pi = 3.141592653589793

most commonly used code style guide : PEP 8

[PEP 8: The Style Guide for Python Code](https://pep8.org/)