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# COMPUTER SCIENCE 2

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# CHAPTER 3

# FILES IN PYTHON

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# USING IMPORT FILE IN PYTHON

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- In python we can show nearly anything using the print function, but have you wondered how it works or where is the print function code located !
- In reality print function is located in a file called `builtins.py` where the Python developers wrote the code of this function.
- So, when you use print function you are calling it from `builtins.py` file,

You can also create a python file lets call it helper.py where you write all the functions you need, and you is it in another Python file.

For example:

```
helper.py X
1  def even():
2      n = int(input("enter a number"))
3      if n % 2==0:
4          print(n,"is even")
5      else:
6          print(n,"is odd")
7
8  def factorial(n):
9      f = 1
10     for i in range(1,n+1):
11         f = f * i
12     return f
13
14 def sumArray(t):
15     s = 0
16     for i in range(len(t)):
17         s = s + t[i]
18     return s
19
20
```

Now, to use the helper.py function in other Python file you must do 2 important things:

1- The helper.py file should be in the same folder as the new file that you will create and use the functions in it.

2- You have to add the following command in the new file:

```
from helper import *
```

An example of new Python file (called test.py) where I used the functions of helper file:

```
test.py X
1  from helper import *
2
3
4  even()
5
6  n = 5
7  print("the factorial of",n,"is:",factorial(5))
8
9  a = [1,2,5,6]
10 s = sumArray(a)
11
12 print("the sum of the elements of this array:",a,"is:",s)
```



# READING AND WRITING A FILE IN PYTHON

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- In python we can create a new text (.txt file) file using a code.
  
- Also, we can ready an existing text file using a Python code.
  
- All what you need is the 4 following functions:
  1. open: is a function that open an existing file or create a new file.
  2. write: is a function that write inside a file.
  3. read: is a function that read the content of a file.
  4. close: is a function that close a file.

➤ Example of codes:

```
# reading from a file
file = open("example.txt", "r")
content = file.read()

file.close()

(content)
```

```
# writing to a file
file = open("example.txt", "w")
file.write("Hello World!")
file.close() # Don't forget this!
```

➤ So, to open file (new file or an existing file), we must use the open function which it takes two parameters:

1- the name of the file,

2- the mode of a using the file

Mode	Meaning
"r"	Read (default)
"w"	Write (overwrite)
"a"	Append
"x"	Create, fail if exists



**THANK YOU FOR YOUR  
ATTENTION**