

WEDNESDAY

EXERCICE 1

WHAT YOUR PROGRAM SHALL DO

- Enter a list of **numbers** in the console:

CONSOLE : console shall display **Enter numbers : [2, 9, 4, 6, 7]**

- Print the **number** of 7 in this list of numbers

CONSOLE : console shall display **Result is : 1**

To perform this exercise you need to code this function and call it :

Function name	numberOfSevens
Parameters	numbers (an array)
Return value	The number of 7 in the array (a number)
Examples	numberOfSevens ([5, 7, 7, 11]) → 2

EXAMPLES

CONSOLE	EXPLANATION
>Enter numbers: [4, 1, 3, 7, 7] >Result is : 2	There are 2 number 7 in the list

HOW TO EVALUATE CONSOLE INPUT AS A LIST OF VALUES ?

CODE	EXPLANATION
a = input("Values:")	If you enter "[4,5,6]" in the console, a will be a STRING containing the characters : "[4, 5, 6]"
a = eval(input("Values:"))	If you enter "[4,5,6]" in the console, a will be an ARRAY containing 3 numbers : 4, 5 and 6
a = "[1,2,3]" b = eval("[1,2,3]")	<ul style="list-style-type: none">- a is a STRING of 7 characters- b is an ARRAY of 3 elements (1, 2 and 3)

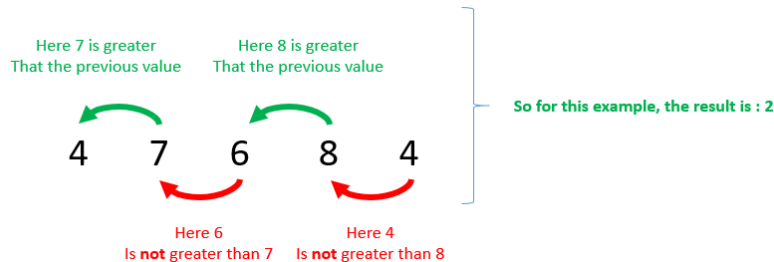
Correction

```
def numberOfSevens(numbers):  
    count7 = 0  
    for number in numbers:  
        if number == 7:  
            count7 += 1  
    return count7  
  
userInput = str(input("Enter numbers: "))  
print("Result is: " + str(numberOfSevens(eval(userInput))))
```

EXERCICE 2

WHAT YOUR PROGRAMM SHALL DO
- Enter a <u>list of numbers</u> in the console CONSOLE : console shall display Enter numbers : [2, 9, 4, 6, 2]
- Print the number of the time a value is greater than the previous value on the list CONSOLE : console shall display Result is : 2

Example: if will enter 5 values: 4, 7, 6, 8, 4 then the result to print is 2, since we have 2 times a number greater than the previous number:



EXAMPLES	
CONSOLE	EXPLANATION
>Enter numbers: [4, 1, 3] >Result is : 1	Here we enter 3 values : 4, 1, 3 - 1 is NOT greater than 4 (0 found) - 3 is GREATER than 1 (1 found) So we print 1
> Enter numbers: [1, 2, 3, 5] >Result is : 3	Here we enter 4 values : 1, 2, 3, 5 - 2 is greater than 1 (1 found) - 3 is greater than 2 (1 found) - 5 is greater than 3 (3 found) So we print 3

Correction

```
def countNumberOfGreater(numbers):
    previousValue = 0
    numberOfGreater = 0
    for index in range(len(numbers)):
        currentValue = numbers[index]
        if index > 0 and currentValue > previousValue:
            numberOfGreater += 1
            previousValue = currentValue

    return numberOfGreater

numbers = eval(input("Enter numbers: "))
numberOfGreater = countNumberOfGreater(numbers)
print("Result is: " + str(numberOfGreater))
```

THURSDAY

EXERCICE 1

WHAT YOUR PROGRAM SHALL DO

- Enter a list of **string** in the console

CONSOLE : console shall display Enter words : ["banana", "apple", "tomatoes"]

-Print the total number of "a" or "A" among all words

CONSOLE : console shall display Total number of A is : 6

Do perform this exercise you need to code a function and call it

Function name	countA
Parameters	words (an array of STRING)
Return value	The number of 7 in the array (a number)
Examples	countA (["a", "aab"]) → 3

Correction

```
def countA(words):
    countALetter = 0
    for word in words:
        for i in range(len(word)):
            letter = word[i]
            if letter.upper() == "A":
                countALetter += 1
    return countALetter

userInput = str(input("Enter words: "))
print("Total number of A is: " + str(countA(eval(userInput))))
```

EXERCICE 2

We give you the bellow 2 arrays:

- One array is a list of country names
- One array is a list of population (in millions)
- In both arrays indexes refer to the same country: for instance, Canada (index 0) has a population of 110 million, Cambodia (index 3) has a population of 8 million.

```
countryNames = ["canada", "france", "usa", "cambodia"]
countryPopulationInMillions = [110, 70, 250, 8]
```

WHAT YOUR PROGRAM SHALL DO

- The program asks user to enter a country name:

CONSOLE : console shall display **Enter country : canada**

- The program shall return the population for the entered country:

CONSOLE : console shall display : **Population of canada is 8 millions people**

Do perform this exercise you need to code a function and call it

Function name	getIndexOfCountry
Parameters	countryName (a STRING)
Return value	The index of the country is the array of country name - Or -1 if the country has not been found in the list
Examples	getIndexOfCountry ("canada") → 0 getIndexOfCountry ("hello") → -1 getIndexOfCountry ("cambodia") → 3

Correction

```
countryNames = ["canada", "france", "usa", "cambodia"]
countryPopulationInMillions = [110, 70, 250, 8]

def getIndxOfCountry(countryName):
    for index in range(len(countryNames)):
        if countryNames[index] == countryName.lower():
            return index
    return -1

userInput = str(input("Enter country: "))
result = ""
indexOfCountry = getIndxOfCountry(userInput)
```

```

if (indexOfCountry) > -1:
    result = "Population of " + userInput + " is " + str(countryPopulationInMillions[indexOfCountry]) + " millions people"
else:
    result = "Country not found"

print(result)

```

FRIDAY

The right order of words!



WHAT YOUR PROGRAM SHALL DO

- Enter a list of string in the console (it shall be the words of a sentence, but in a wrong order)

CONSOLE : Enter words : ["Ronan", "is", "Hello", "name", "my"]

- Enter a list of integer in the console (it shall be the REAL order of the words)

CONSOLE : Enter the order of words : [2, 4, 3, 1, 0]

Explanations:

Here the real sentence is : "Hello my name is Ronan"

So we need first the string at index 2 ("Hello") then 4 ("my") and so on...

- Print the sentence of words in the right order, including space between words :

CONSOLE : Hello my name is Ronan

EXAMPLES

CONSOLE	EXPLANATION
>Enter words: ["python", "love", "I"] >Enter orders: [2,1,0] >I love python	The first word of the sentence is at index 2 Then index 1 ("love") Etc.
>Enter words: ["for", "ready", "Are", "algorithm", "you"] >Enter orders: [2, 4, 1, 0, 3] >Are you ready for algorithm	The first word of the sentence is at index 2 ("Are")

Correction

```
def realSentence(word):
    result=""
    numbers=eval(input("Enter the order of words :"))
    for i in range(len(numbers)):
        for index in range(len(word)):
            if index==numbers[i]:
                result=result+word[index]
        result=result+" "
    return result
name=eval(input("Enter words:"))
print(realSentence(name))
```