BEFORE STARTING!

Manage your time: you can do everything in 2 days, or follow the plan day by day. But: don't do everything at the last minute!

Think by yourself: don't ask the answer to other students
Your facilitator is here to answer your questions – **not the students!**

Read the **instructions**!
Also **read** the **examples**, they will help you to understand what we ask you to do

NEW!! Now we display input and output together, but using different colors…

Input (what you **enter** in the console) are in red

TEST CASES	
Input in RED Output in BLUE	
CONSOLE	EXPLANATION
>Enter number 1: 14 >Enter number 2: 3 >Greater number is number 1	14 (number 1) is greater than 3 (number 1)

Output (what you **write** on console) are in blue

Explanations about this example of program execution

MONDAY

THE INDEX OF 7

WHAT YOUR PROGRAMM SHALL DO
- Enter 1 number (numberOfValues) in the console - Enter < numberOfValues> numbers in the console -Print the **index** of the **first** 7 found among the entered values: - If no 7 is entered, print "No 7 entered"

Example: if will enter 4 values: 5, 7, 6, 8   then the result to print is 1, since the first 7 is at index 1

$$5 \quad\quad 7 \quad\quad 6 \quad\quad 8$$

index   0   1   2   7

EXAMPLES	
CONSOLE	EXPLANATION
>Number of values: 4 >5 >5 >7 >5 >7 index is: 2	Here we enter 4 values : 5, 5, 7, 5 The first 7 found is at index 2 in this list of numbers So we print 2
>Number of values: 3 >6 >5 >2 >No 7 entered	Here we enter 3 values : 5, 5, 2 There is no 7 in this list
>Number of values: 5 >6 >5 >7 >1 >7 >7 index is: 2	Here we enter 5 values : 6, 5, 7, 1, 7 The first 7 found is at index 2 in this list There is another 7 at index 4 but we take the first one! So we print 2

CORRECTION

```
numberValues = int(input("Number of values:"))

sevenIsFound = False
```

```python
sevenIndex = 0

for index in range(numberValues):
    value = int(input())

    if value == 7 and not sevenIsFound:
        sevenIsFound = True
        sevenIndex = index

if sevenIsFound:
    print("7 index is: " + str(sevenIndex))
else:
    print("No 7 entered")
```
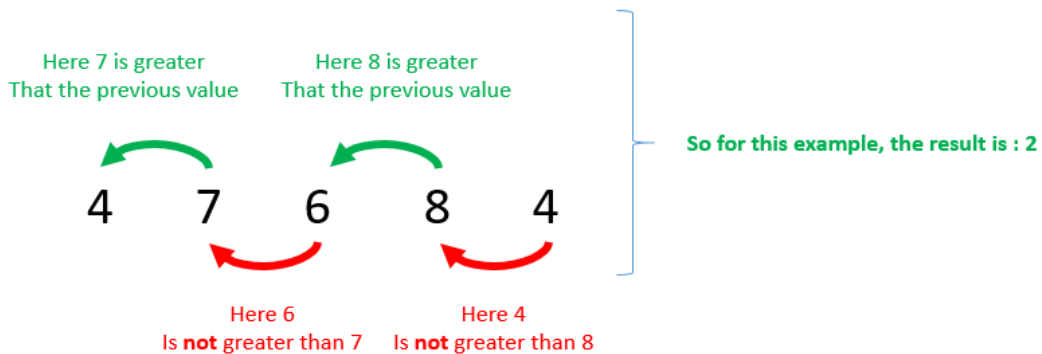
TUESDAY

GREATER THAN PREVIOUS ONE!

WHAT YOUR PROGRAMM SHALL DO
- Enter 1 number (numberOfValues) in the console - Enter < numberOfValues> numbers in the console -Print the **number** of the **time** a value is greater than the previous value on the list

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:

Here 7 is greater
That the previous value

Here 8 is greater
That the previous value

So for this example, the result is : 2

4 7 6 8 4

Here 6
Is **not** greater than 7

Here 4
Is **not** greater than 8

EXAMPLES	
CONSOLE	EXPLANATION

>Number of values: 3
>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

>Number of values: 4
>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

CAN I HAVE SOME HELP?
Here you need to find a way to "remember" the previous value Also be careful about when do you start to compare the values: first iteration? Second iteration? Third iteration?

```
numberValues = int(input("Number of values:"))

numberOfGreater = 0
previousValue = 0

for index in range(numberValues):
    currentValue = int(input())

    if index > 0 and currentValue > previousValue:
        numberOfGreater = numberOfGreater+1

    previousValue = currentValue

print("Result is: " + str(numberOfGreater))
```

Notes for teachers:

- Students should be careful: during the first iteration (index 0) there is no previous value!
- Here we are using 1 variable to keep the value as "previous value" before going to the next step

WEDNESDAY

What is a sequence of 3 consecutive numbers?

- Consecutive numbers means the next number is equal to the previous + 1
- Therefore a sequence of 3 consecutive number N1, N2, N3 means : N2 = N1 +1 and N3 = N2 +1
    - Example : 2, 3, 4 or 10, 11, 12
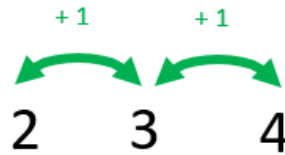
WEDNESDAY EXERICICE 1

WHAT YOUR PROGRAMM SHALL DO
- Enter 3 numbers (n1, n2, n3) in the console - Print "SEQUENCE" if the 3 numbers are a **sequence of 3 consecutive numbers** - Otherwise print "NOT SEQUENCE"

EXAMPLES	
CONSOLE	EXPLANATION
>5 >6 >7 >SEQUENCE	5 6 7 is a consecutive sequence of number : 5 +1 = 6 6 + 1= 7
>5 >6 >8 >NOT SEQUENCE	

CORRECTION

```python
n1 = int(input("N1:"))
n2 = int(input("N2:"))
n3 = int(input("N3:"))

isConsecutive = (n2 == n1 + 1) and (n3 == n2 + 1)
if isConsecutive:
    print("SEQUENCE")
else:
    print("NOT SEQUENCE")
```

Note: as you guess, it's just an appetizer for the next exercise ☺

WHAT YOUR PROGRAMM SHALL DO

- Enter 1 number (numberOfValues) in the console
     This number must be equal to 3 or greater
- Enter < numberOfValues> numbers in the console

- Print the number of **sequence of 3 consecutive numbers** you found in the list of numbers

EXAMPLES

CONSOLE	EXPLANATION
>Number of values: 4 >10 >2 >3 >4 >1	Here we enter 4 values : 10, 2, 3, 4 This is only 1 sequence : 2, 3, 4 So we print 1
>Number of values: 5 >6 >2 >3 >4 >5 >2	Here we enter 5 values : 6, 2, 3, 4, 5 This is only 2 sequences 2, 3, 4 3, ,4 5 So we print 2
>Number of values: 3 >6 >2 >3 >0	Here this is not sequence, So we print 0

```
numberValues = int(input("Number of values:"))
numberOfSequences = 0
n1 = 0
n2 = 0

for index in range(numberValues):
    n3 = int(input())

    # Check if n1, n2, n3 are consecutive (only from iteration 2)
    if index >= 2:
        isConsecutive = (n2 == n1 + 1) and (n3 == n2 + 1)
        if isConsecutive:
            numberOfSequences = numberOfSequences + 1

    # Update n2
    if index >= 1:
        n1 = n2

    # Update n1
    n2 = n3

print(numberOfSequences)
```
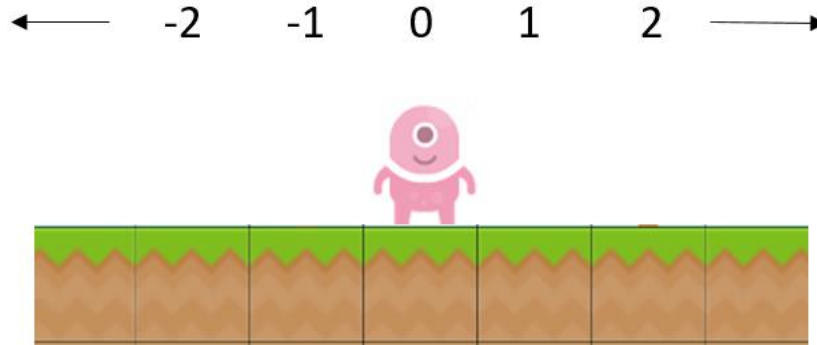
THURSDAY

LET'S MOVE BALOOK!

Do you remember Balook? The robot who can go left and right... Let's start to move it a bit.

You can enter the following actions on the console:

- L   (left) will move Balook to the **left**
- R   (right) will move Balook to the **right**
- S   (stop) stop the program

Balook is at position 0 at the beginning

- If you move left, position is decreased of 1
- If you move right, position is increased of 1

WHAT YOUR PROGRAMM SHALL DO
- Enter a string (the action) : which shall be only : L (for left), R (for right) , S (for stop) - Regarding the action, move the position of Balook - Continue to enter action, and stop program when the action is S (stop) -Print the **final position of Balook**

EXAMPLES	
CONSOLE	EXPLANATION
>Action: L >Action: L >Action: L >Action: S >Balook position is: -3	We entered 3 times the action L (left) So the position at the end is -3 (0 -1 -1 -1)
>Action: L >Action: R >Action: L >Action: R >Action: S >Balook position is: 0	We entered 2 LEFT and 2 RIGHT So the position at the end is 0 (0 +1 -1 +1 -1)

CORRECTION

```
canContinue = True
balookPosition = 0

while canContinue:
    action = input("Action:")

    if action == "R":
        balookPosition = balookPosition + 1
    elif action == "L":
        balookPosition = balookPosition - 1
    elif action == "S":
        canContinue = False

print("Balook position is: " + str(balookPosition))
```
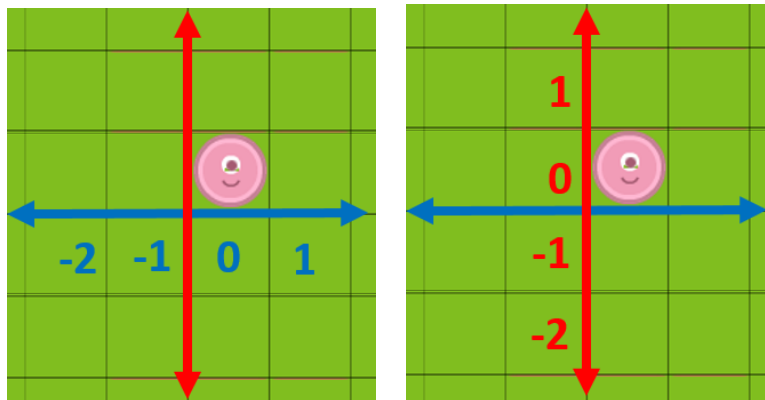
FRIDAY

LET'S MOVE BOSOK!

Bosok... This robot can move right, left, up and down. Do you remember?

Right now, Bosok is at position (0, 0) which mean 0 on X and 0 on Y

- So Bosok has 2 positions: horizontal (on X axis) and vertical (on Y axis)
- We represent Bosok position like this: (3, 4)   which means: 3 on X and 4 on Y

You can enter the following actions on the console:

- L   (left) will move Bosok **left**
- R   (right) will move Bosok **right**
- U   (up) will move Bosok **up**
- D   (down) will move Bosok **down**
- S   (stop) stop the program

Bosok is at position (0, 0) at the beginning

WHAT YOUR PROGRAMM SHALL DO

- Enter a string (the action) : which shall be only : L, R, R, U, D, S
- Regarding the action, move the position of Balook
- Continue to enter action, and stop program when the action is S (stop)
- Print the **final position of Bosok**

CORRECTION

```
canContinue = True
bosokX = 0
bosokY = 0

while canContinue:
    action = input("Action:")

    if action == "R":
        bosokX = bosokX + 1
    elif action == "L":
        bosokX = bosokX - 1
    elif action == "U":
        bosokY = bosokY + 1
    elif action == "D":
        bosokY = bosokY - 1
    elif action == "S":
        canContinue = False

print("Balook position is: (" + str(bosokX) + ", " + str(bosokY) + ")")
```