Task M2 T02

Exercises of control structures with Python

- Exercise 1

The exercise consists of creating a program that classifies you with a numerical variable based on the Failed/Passed/Notable/Excellent scale.

Remember that Fail < 5, Pass > 5 and < 7, Notable > 7 and < 9, and Excellent > 9.

In [106…
```python
def classified_points(value):
    if value<=5 and value>=0:
        print("Fail")
    elif value>5 and value<=7:
        print("Pass")
    elif value>7 and value<=9:
        print("Notable")
    elif value>9 and value<=10 :
        print("Excellent")
    else:
        print("Value out of range")


classified_points(4)
classified_points(5)
classified_points(8)
classified_points(10)
classified_points(65)
classified_points(-15)
```

```
Fail
Fail
Notable
Excellent
Value out of range
Value out of range
```

- Exercise 2

Using the following tutorial, create a program that prompts you for two numbers. It should show you a message saying if the first is bigger, the second is bigger or they are equal.

->Programiz: Python Input, Output and Import

In [64]:
```python
def equal_bigger_than(x,y):
    if x == y:
        print("They are equal")
    elif x>y:
        print("The first is bigger")
    else:
        print("The second is bigger")


number_one = int(input("Enter a first number : "))

number_two = int(input("Enter a second number : "))

equal_bigger_than(number_one,number_two)
```

```
Enter a first number : 5
Enter a second number : 9
The second is bigger
```

- Exercise 3

Create a program that asks for your name, and asks for a number. If the number is 0, it should display an error message. Otherwise, it should show the name repeated as many times as the number. For example, "John John John".

In [82]:
```python
def name_for_name(name,number):
    if number<=0:
        print("Error!!! Enter a integer number")
    else:
        for i in range(number):
            print(name)


name = input("Enter your name : ")
number = int(input("Enter a number : "))

name_for_name(name,number)
```

```
Enter your name : Ivana
Enter a number : 5
Ivana
Ivana
Ivana
Ivana
Ivana
```

- Exercise 4

Create a program that, given any list, tells you whether it is symmetric or not. If it is, tell you how many elements it has.

In [104…
```python
def first_form(list_one): #reverse the list
    new_list=[]
    j = 1
    for i in list_one:
        new_list.append(list_one[len(list_one) - j])
        j+=1
    if new_list == list_one:
        symmetric = 1
    else:
        symmetric = 0
    print_symmetric(list_one,symmetric)


def second_form(list_two): #compares last and first if finds a different is not symmetric
    j = 1
    for i in list_two:
        if i != list_two[len(list_two) - j]:
            symmetric = 0
            break
        else:
            symmetric = 1
        j+=1
    print_symmetric(list_two,symmetric)


def print_symmetric(list_ex,value):
    print (list_ex)
    if value == 1:
        print ("The list is symmetric")
    else:
        print("The list is not symmetric")

example_list = [7,5,3,1,3,5,7]

first_form([7,5,3,1,3,5,7])
second_form([7,5,3,1,3,5,7])

first_form([1,2,3,4,5,6,7,8])
second_form([1,2,3,4,5,6,7,8])
```

```
[7, 5, 3, 1, 3, 5, 7]
The list is symmetric
[7, 5, 3, 1, 3, 5, 7]
The list is symmetric
[1, 2, 3, 4, 5, 6, 7, 8]
The list is not symmetric
[1, 2, 3, 4, 5, 6, 7, 8]
The list is not symmetric
```

- Exercise 5

Create a program that, given a list, tells you how many numbers match its position. For example [3,4,2,0,2,3,6] 2 and 6 match.

In [103…
```python
def match_numbers(list_of_numbers):
    i = 0
    match=0
    for x in list_of_numbers:
        if i==x:
            print(x)
            match+=1
        i+=1
    print("Match: ",match)

match_numbers([3,4,2,0,2,3,6])
match_numbers([0,4,2,0,2,3,6,9,3,15,10])
match_numbers([0,4,2,0,4,6,2,3,8,9])
```

```
2
6
Match:  2
0
2
6
10
Match:  4
0
2
4
8
9
Match:  5
```