# Introduction to Python I (Exercises 05)  (Sample answers)

Remember that you can come out with a different way to solve the exercises

At the beginning while you are getting acquainted with programming and Python as a language your objective is to produce a suitable RESULT. As you get more experience, you will be able to apply your python knowledge to write elegant code. But for the time being focus on the results.

1) Write a program that defines the following dictionary:

```
student_marks = {'Joe':15, 'Mary':20, 'Ralph':18, 'Annita':19}
```

1.1 Just print t the dictionary (in dictionary form)

```
{'Joe':15, 'Mary':20, 'Ralph':18, 'Annita':19}
```

1.2 Add the key pair value `{'Rob':16}` to the dictionary

1.3 Assign the mark 17 to Joe

1.4 Write an If statement that checks for the existence of student 'Mary' in the dictionary. Print a message that lets you know if 'Mary' is or is not in the dictionary.

Do the same logic, but this time prompt the user for a student name. Then apply the same logic as above.

1.5 Print the elements of the dictionary, first the key and then the value:
As in:

Joe 15
Mary 20
Ralph 18
Annita 19

```
student_marks = {'Joe':15, 'Mary':20, 'Ralph':18, 'Annita':19}

#1.1
print(student_marks)

1.2#
student_marks['Rob'] = 16

#1.3
student_marks['Joe'] = 17

#1.4

if 'Mary' in student_marks:
    print('Mary is in the dictionnary')
else:
    print('Mary is not in the dictionnary')
```

```
#1.5

for key, value in student_marks.items():
    print(key, value)
```

2) Write a program that creates a dictionary with student names and marks. Input the names and marks from the user (2 separate lines). Stop entering names and marks, whenever the user enters a 'Q' or 'q' in the name field.

Once the dictionary is complete, print all the values of the dictionary (name and marks, side by side).

```
my_dict = {}

while True :

    name = input('Name: ')

    if  name == 'q' or name == 'Q':
        break

    mark = int(input('Mark: ' ))

    my_dict[name] = mark

for name, mark in my_dict.items():
    print("{:<10} {:>10}".format(name, mark))
```

3) Write a program that prompts for a string and prints a table of the letters that appear in the string in alphabetical order. Besides the letter, print the number of times the letter is found in the string. Case should be ignored.
A sample output of the program when the user enters the string 'This is a String with Upper and lower case Letters', would look this this:

a: 3, c: 1, d: 1, e: 5, g: 1, h: 2, i: 4, l: 2, n: 2, o: 1, p: 2, r: 4, s: 5, t: 5, u: 1, w: 2

```
sentence = input('Enter a phrase: ')

my_dict = {}

for i in sentence:
        i = i.lower()

        if i != ' ':
            my_dict[i] = my_dict.get(i, 0) + 1


for i in sorted(my_dict):
    print(i, my_dict[i], sep=':', end=' ')
```