Python Course
Test#1

1) Write a program which ask to input a number and range of table and print table as follows: (4 Minuts)

Input:

Enter a number: 3
Enter the Range: 5

Output:

3 x 1 = 3
3 x 2 = 6
3 x 3 = 9
3 x 4 = 12
3 x 5 = 15

2) Write a program which shows the following output: (2 Minuts)

```
* * * * *
* * * *
* * *
* *
*
```

3) Write program which, (10 Minuts)

a) Ask the user to enter any number,
b) Calculate and Output its factorial (write seprate function for factorial),
c) Use while loop to continue the program or to terminate the program.

As in the following output:
Enter any Integer value: 3
Factorial of 3 is 6
Do you want to continue (Y/N)?

4) Write a C program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following: (10 Minuts)

Percentage >= 90% : Grade A
Percentage >= 80% : Grade B
Percentage >= 70% : Grade C
Percentage >= 60% : Grade D
Percentage >= 40% : Grade E
Percentage < 40% : Grade F

Input

```
Input marks of five subjects:
95
96
97
98
90
```

Output

Percentage = 95.00
Grade A

5) Write a function with the name get_student_marks . This function will be given the following list as its only parameter: (15 Minuts)

```
[
    { ' roll_no ' : ' p19-1001 ' ,
     ' attendance ' : 88.4,
      ' marks ' : {
            ' english ' : (1.4, 2.5, 15, 9.6, 33),
            ' calculus ' : (2.4, 1.5, 12, 1.6, 21),
      }
    },
    { ' roll_no ' : ' p19-1002 ' ,
    ' attendance ' : 79.4,
     ' marks ' : {
          ' english ' : (2.4, 1.5, 12, 1.6, 21),
          ' DLD' : (2.4, 1.5, 12, 1.6, 21),
    }
    },
    { ' roll_no ' : ' p19-1003 ' ,
    ' attendance ' : 79.4,
     ' marks ' : {
          ' calculus ' : (2.4, 1.5, 12, None, 21),
          ' DLD' : (2.4, 1.5, 12, 1.6, 21),
    }
    }
]
```

This is not that complicated. So, pay attention: It's a list of student records – each record being a dictionary.

This has three keys: roll_no and attendance are straight-forward but the value of the key 'marks' is itself a dictionary.

This dictionary has subject names as keys and tuples as values. Each of these tuples has the marks the student has obtained in a quiz/assignment. (If the student did not take that quiz, the record will have a None there.)

Your mission, should you choose to accept it, is to write get_student_marks in a way that it returns the cumulative marks of each student but in a specific structure: So, for the case above, it should return a dictionary as follows:

Output:

```
{
    ' p19-1001 ' : { ' english ' : 61.5,
          ' calculus ' : 38.5
    },
    ' p19-1002 ' : { ' english ' : 38.5,
          ' DLD ' : 38.5
    },
    ' p19-1003 ' : { ' calculus ' : 36.9,
          ' DLD ' : 38.5
    }
}
```

6) Let you have a to be a two-dimensional array/list with the following elements. (10 Minuts)

```
23  5   6   15  18
4   16  24  67  10
12  54  23  76  11
```

1	12	34	22	8
81	54	32	67	33
12	34	76	78	9

Write a function that print the largest element of each row

Sample Run:

The largest element in row 1 = 23
The largest element in row 2 = 67
The largest element in row 3 = 76
The largest element in row 4 = 34
The largest element in row 5 = 81
The largest element in row 6 = 78