# Introduction to Python

1. Write a function which can compute the factorial of a number given by the user. The results should be printed to the console. In mathematics, the factorial of a non-negative integer n, denoted by n!, is the product of all positive integers less than or equal to n. For example:



1. Write a Python program to display the current date and time. Your output should look similar to:

Current date and time:

2015-07-01 16:38:57

1. Write a Python program to count the number of even and odd numbers in an input list of numbers. The input should be a list of numbers: numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9] the output should look something similar to:

('Number of even numbers :', 5)

('Number of odd numbers :', 4)

1. Write a Python function that takes a list and returns a new list with the unique elements of the first list. The input should be a list of numbers with some repetitions: numbers = [1,2,3,3,3,3,4,5] the output should look something similar to:

[1, 2, 3, 4, 5]

1. Create a dictionary data structure containing fields/value pairs such as name/string, age/int, major/string and courses/list of strings.
2. Define, instantiate and test a class with at least two methods:
   1. getString: gets a string from console input and stores it in an attribute named “st” inside the class
   2. printString: prints in upper case the class attribute string stored in attribute “st”.
3. Define a class named Circle which is constructed with a radius argument in the following manner:

aCircle = Circle(2). The Circle class should also have a method which can compute the area of the circle (). You will need to import the required module to access the pi mathematical constant.

1. Write a one line of code to raise a RuntimeError exception with an error message.
2. Define a class Person with one attribute “age” constructed upon instantiation via the \_\_init\_\_ constructor. Define also two child classes: Male and Female. All classes should have the method "getGender" which can print "Male" for Male class, "Female" for Female class and “Unknow” for the Person class. Overload the print operator of the Person class for a customized printout of a class instance.
3. Write a function that takes 2 input arguments (a and b) and prints the result of the division a/b. Define the function so you try to do the division and raise a ZeroDivisionError exception if b = 0 (you cannot divide by 0).