Computer Comm & Networks - ITCS 6166

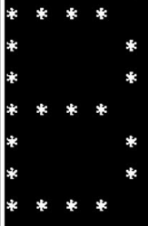**Assignment - 0**   **Due on : 01/23/2019 11:59pm**

Goal: Learn basics of Python programming. This exercise will help you to become familiar with python data types, functions, decorators and loops.

Discussion Topic: Python Programming – Post any questions and collaborate with your peers.

Python Installation: Ref - https://www.tutorialspoint.com/python/python_environment.htm

Problem Statement:

1. Write a program to print "Hello World" (5 points)
    Ref: https://www.tutorialspoint.com/python/

2. Write a program that asks the user to enter their name and their age. Print a message addressed to them that tells them the year that they will turn 100 years old. (5 points)
    Ref: https://www.tutorialspoint.com/python/python_basic_syntax.htm
        https://www.tutorialspoint.com/python/python_variable_types.htm

3. Write a program to store record of 10 students using Dictionary data type. Student record should hold Student first & last name and date of birth. (5 points)
    Ref: https://realpython.com/python-lists-tuples/
        https://realpython.com/python-dicts/

4. Write a function to print all student names and date of birth on the student records using FOR loop. (5 points)
    Ref: https://opensource.com/article/18/3/loop-better-deeper-look-iteration-python

5. Write a decorator function that takes the student name as arguement and creates an Email ID for the student using first 2 letters of first & last name. (5 points) (Example- Student name: John Smith, then Email ID should be josm@example.com)
    Ref: https://realpython.com/primer-on-python-decorators/

6. Write a Python program to demonstrate that a function can be defined inside another function and a function can be passed as parameter. (5 points)
    Expected Output: Welcome to Python Programming
    Ref: https://www.programiz.com/python-programming/function

7. Write a program to list all the files in the given directory along with their length and last modification time. The output should contain one line for each file containing filename, length and modification date separated by tabs. (10 points)
    Ref: https://www.tutorialspoint.com/python/python_modules.htm

8. Write a Python program to print the word for alphabet 'B' with any pattern like stars, dots, lines,etc. for the given input as follows. (5 points)

9. Write a Python program to print the given string, where all occurrences of its first char should be been changed to '$'. You should write your own function that takes the input string as argument and returns the string with the replaced character (5 points)
Sample String : 'restart'
Expected Result : 'resta$t'

10. You will keep track of when our friend's birthdays are, and be able to find that information based on their name. Create a dictionary of names and birthdays. When you run your program it should ask the user to enter a name, and return the birthday of that person back to them. The interaction should look something like this: (5 points)

>>> Welcome to the birthday dictionary. We know the birthdays of:
Albert Winchester
Amy Smith
>>> Who's birthday do you want to look up?
Amy Smith
>>> Amy Smith's birthday is 01/23/1990.

You should turn in your python script on CANVAS course site assignment section with filename named in the following format:

Please include the below things in your assignment submission:

1. Program files: Save each program as ex#.py, replace # with the question number
2. Snapshot of each program output.

Upload the Compressed file as Assignment0_yourfirstname.zip

Note: Please follow the deadline strictly as we would not accept any submissions after the deadline.