FE-520 Assignment 1

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September 15, 2020

Submission Requirement:

For all the problems in this assignment you need to design and use Python 3, output and present the results in nicely format.

Two ways to submit homework:

1. If you use Jupyter Notebook, go to File - Download as - click HTML(.html) and Python(.py), you need to submit both HTML file and Python to Canvas.
2. If you use Other IDE, screenshot your code and result into PDF, you need to submit both PDF file and Python to Canvas.

You are strongly encouraged to write comment for your code, because it is a convention to have your code documented all the time.

Do NOT copy and paste from others, all homework will be firstly checked by plagiarism detection tool.

1 Print (10pts)

1. Define a string variable, and print it.
2. Define a string (I'm a student), print it.
3. Defind a string:
   (How do you think of this course?
   Describe your feeling of this course)
   print it in multiple line.

2 Operator (15pts)

Define a = 100, b = 9, calculate following problems,

1. c = a + b, print c out.
2. print the quotient of a/b.

3. print the integer part of a/b.
4. print the remainder part of a/b
5. print the result of 'a' to the power of b.
6. Using logic operator to return a Boolean value for a unequal to b.
7. Using logic operator to return a Boolean value for a greater than b.

3 List Practice (30pts)

1. Define a list Name it List_A), whose items should include integer, float, and string. Please notice the length of the list should be greater than 5.
2. Using extend and append to add another list(Name it List_B) to List_A.
3. Insert a string ('FE520') to the second place of List A, and delete it after that.
4. Return and delete the last element in the List_A, and print the new list.
5. Return a new list (Name is List_C), slicing the List_A from 3rd to the end.
6. Double size your List_C.
7. Reverse your sequence of List_C.

4 Practice Dictionary (15 pts)

1. Define a list A = [1, 2, 3, 5, 10, 1, 4, 10, 11, 20, 50, 100].
2. Write a loop to count the number of each unique digit into dictionary, where your keys are digit in the list A, and value is the count corresponding to each digit. Your result should look like :
   {1: 3, 2: 1, 3: 1, 5: 1, 10: 1, 4: 1, 11: 1, 20: 1, 50: 1, 100: 1}

5 Loop Condition Practice(30 pts)

Consider a sequenced list (or inversed sequence list, you need to consider an inversed sequence situation) and an inserted number. Define a function with two arguments, one is the sequenced list, another one is the inserted number. Please insert the number in the list with right place and output the new list. (Hint: you need to consider the special situation that the inserted number is smaller or greater than all numbers) Example:

Input:
List = [1, 2 , 4 , 9 , 17 , 25 , 63]
InsertNum = 13
Output:
NewList = [1, 2 , 4 , 9 , 13 , 17 , 25 , 63]