

# FE-520 Assignment 1

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## 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.

Please submit a written report (pdf), where you detail your results and copy your code into an Appendix. You are required to submit a single python file and a brief report. Your grade will be evaluated by combination of report and code.

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

Python script must be a '.py' script, Jupyter notebook '.ipynb' is not allowed.

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. Define 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 dictionary with 3 item (Name is Dict\_A).
2. Define another dictionary equal to Dict\_A, change the item value in new dictionary, but not hurt Dict\_A.

### **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]