**AL-2001**

**Programming for AI**

**Lab # 5**

**Objectives**

**Lists**

**Note: Carefully read the following instructions (***Each instruction contains a weightage***)**

* First think about statement problems and then write your logic on Copy / Notebook.
* Write **Your Name** and **Roll No** on your Paper/Sheet’s first page.
* Do not copy from any source otherwise you will be penalized with negative marks.
* Complete your lab **within given Time Slot**.
* Do not discuss about your assigned with any one. It will be not evaluate.
* Paste all your codes along with screenshots in a word file and renamed with your roll number.
* Keep all your source files in your computer for verification. Do not overwrite a single source file for all programs.

**[Problems/Task]**

1. Write a Python program to get the largest number from a list.
2. Write a Python program to count the number of strings where the string length is 2 or more and the first and last character are same from a given list of strings.
3. Write a Python program to print a specified list after removing the 0th, 4th and 5th elements.
4. Write a Python program to access the index of a list.
5. Write a Python program to find the index of an item in a specified list.
6. Write a Python program to insert an element in a given list after every nth position.  
   **Original list:**[1, 2, 3, 4, 5, 6, 7, 8, 9, 0]  
   **Insert a in the said list after 2nd element:**  
   [1, 2, 'a', 3, 4, 'a', 5, 6, 'a', 7, 8, 'a', 9, 0]  
   **Insert b in the said list after 4th element:**[1, 2, 3, 4, 'b', 5, 6, 7, 8, 'b', 9, 0]
7. Write a Python program to find common elements in a given list of lists.  
   **Original list:**[[7, 2, 3, 4, 7], [9, 2, 3, 2, 5], [8, 2, 3, 4, 4]]  
   Common elements of the said list of lists:  
   [2, 3]

**Original list:**  
[['a', 'b', 'c'], ['b', 'c', 'd'], ['c', 'd', 'e']]  
Common elements of the said list of lists:  
['c']

1. Create a list with the unique values filtered out.
2. Write a code to [Count Strings with substring String List](https://www.geeksforgeeks.org/python-count-strings-with-substring-string-list/?ref=leftbar-rightbar).
3. [Write a program to reverse All Strings in String List](https://www.geeksforgeeks.org/python-reverse-all-strings-in-string-list/?ref=leftbar-rightbar).
4. Write a [program to select Random value from list of lists](https://www.geeksforgeeks.org/python-program-to-select-random-value-form-list-of-lists/).
5. Create a program to eliminate the List's duplicate items.
6. Implement a python function that works like the following:

* count
* in: return TRUE if the item is in the list
* reverse
* index: return -1 if the item is not in the list
* insert

1. Write python statements to do the following:

* Append 3.14 and 7 to the list
* Insert the value ’dog’ at position 3.
* Find the index of ‘cat’.
* Count the number of 7s in the list.
* Remove the first 7s from the list.
* Remove ’dog’ from the list using pop and index.

**You need to done with your exercise within given time.**