# Introduction to Computer Science and Programming 1

# CSCI120

### Chapter8: List

Lab

**Note:** This document has been designed and developed as part of an initiative for creating an OER (Open Education Resource) package for the course CSCI 120 at Columbia College.

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| --- | --- | --- |
| **# of Students in the Group:** |  | |
|  |  |  |
| **Student 1** | *First name, last name* | *Student-ID* |
| **Student 2** | *First name, last name* | *Student-ID* |
| **Student 3** | *First name, last name* | *Student-ID* |
| **Student 4** | *First name, last name* | *Student-ID* |

Note: Only use lists to solve the following problem

# Problem1

* Design and implement a function which receives a list of numbers and returns the reverse of the list.

# Problem2

* Define and implement a function which return the multiple table of 1 to 10. The item located at index [i,j] should represent the result of (i+1)\*(j+1)

# Problem3

* Define and implement a function which receives 2 lists as its input parameters (list 1 and list2). The function will return True if list2 is just different arrangement of list1.

# Problem4

* Define and implement a function which receives a list of numbers and returns a number which is actually an index (i) of the input array. This function checks whether the input list is a “Splitable” into two lists List1:[0…i] and list2[i+1, ..n] where n is the last index of the list, where the sum (List1) = sum(List2)

# Problem5

* Define and implement a function with a number (n) as its input parameter (n is less than 20). The function generate and returns a list with the following specification:
  + The length of the list should be equal to n.
  + The function will try to generate n random number greater than 0 and add it to a list.
  + A generated random number (between 0 and 100) is only added to the list if it is strictly bigger than any other number in the list.
  + It is likely that the function cannot generate such a list. If the function cannot generate such a list completely, it should return an empty list instead.
    - For instance, if n = 10 and the first randomly generated number is 93 (as an example) it is not possible to generate 9 more numbers that are less than 100 and greater than 93. In this case the function should stop and returns an empty list.

**Problem6**

- Define and implement a function which return the multiple table of 1 to 10. The item located at index [i,j] should represent the result of (i+1)\*(j+1)

**Problem7**

- Define and implement a function which receives 2 lists as its input parameters (list 1 and list2). The function will return True if list2 is just different arrangement of list1.

**Good Luck ☺**