Design and Analysis of Algorithms (Week0)
PCS-505

We will be using Git and Github for all the assignment submissions so all the students are advised to do the following set-up for upcoming DAA labs. We will be asking your GitHub username soon so please ensure that you create your profile within this week.

1. Set up Git in your system and create your GitHub profile.
2. Create a separate repository for submitting DAA Lab assignments.
3. To know how to use GitHub and make pull requests (we will be using pull requests sometimes in near future so it's better to learn now.) you can watch the following tutorials - Tutorial-1, Tutorial-2 beginning from 23:00, Tutorial-3, Tutorial-4. The first two tutorials will teach you to create your own repositories and push the code to them, while the last two tutorials will talk about creating pull requests to publicly available repositories.

Note - During the previous semester, Full Stack Web Development mid and end term examinations were conducted through Github for which the above four tutorials were very helpful. You can see the question paper, submission by students and all the instructions on - this link.

Week 0: This question is for practice purposes, so all of you should create a folder having the name Week0. Inside that, create a file with the name **linear_search.XX** where XX is an extension of your file depending on the programming language you choose for the first problem.

Question-1: Given an array of nonnegative integers, design a linear algorithm and implement it using a program to find whether a given key element is present in the array or not. Also, find the total number of comparisons for each input case. (Time Complexity = O(n), where n is the size of input).

For this problem you are free to choose programming language, no. of test cases, input and output format.
If you feel ambitious about problem solving, keep the input inside a text file, read that using a program to generate the output in another file.

Hint - You can take the first line as n, no. of test cases and after that n lines containing various numbers of elements where each line represents an array.