**Data Structures Assignment**

**Submission date:** Before or on 31st October

Submission Link: <https://forms.gle/ts3xEWaXxV6CxqYz5>

**Assignment Questions:**

1. Write are the applications of data structures.
2. Compare the running time T1 of the linear search algorithm with the running time T2 of the binary search algorithm when n=1000.
3. Suppose pattern P=aaa and text T=, find the number of comparisons to find the INDEX of P in T using first pattern matching algorithm.
4. Suppose the following numbers are stored in an array A:

32,51,27,85,66,23,13,57

Apply the bubble sort to the array A.

1. Let DATA be the following sorted 13-element array:

11,22,30,33,40,44,55,60,66,77,80,88,89

Apply the binary search to DATA for the value of 44

6. What are the limitations of the binary search algorithm?

7. Describe data structure operations with example.