

Data Structures
Data Structures and Algorithms
Spring-2020 Mid-Semester Assignment
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- Attempt All Tasks.

Q#1. (a) Let the size of A [] be 15654 and the lower bound be 36767, calculate the upper bound. (06)

- (b) Suppose a list of 350 elements is to be sorted using Bubble Sort, then find
- i. Total Number of Passes (01)
 - ii. Total Number of Steps (01)
 - iii. Number of Steps in Pass# 137 (01)
 - iv. Number of Steps in Pass# 193 (01)

Q#2. Sort the given list using Selection Sort. (10)
10, 15, 0, 7, 8, 6

Q#3. Fill in the blanks. (10)

- i. _____ Data Structure may deal with only a single value.
- ii. _____ Data Structure may deal with multiple values.
- iii. The logical / mathematical organization of data is called _____.
- iv. A Tree is a _____ Data Structure.
- v. An Array is a _____ Data Structure.
- vi. List must be sorted for _____ Searching.
- vii. $17 \text{ int-div } 2 =$ _____.
- viii. An investigation parade of criminals is an example of _____.
- ix. Number of Fields in a Record is called _____.
- x. Number of Records in a Block is called _____.