## Lab 3 Exercise

**Task#1** Write a Program that ask user to enter 10 elements and finds the 4 minimum elements from given array using selection Sort.

**Task#2:** Let  $arr[9] = \{ 20, 12, 15, 2, 10, 1, 13, 9, 5 \}$  now sort the array in such a way that maximum element must be at middle of the array and rest of array must be sorted in ascending order do this using insertion sort.

**Sorted array:** 1 2 5 9 **20** 10 12 13 15

**Task#3**: Write a Program that asks to enter the elements for array in string and finds the 4 maximum elements from given array using Selection sort.

**Task#4:** From array mentioned below find the following names and their index using binary search as well as linear search and count the number of steps on each finding element by using both techniques and analyze which technique is getting more time:

- Aftab
- Rizwan
- Tariq

| Ahmed | Ali | Basit | Karim | Rizwan | Sarwar | Tariq | Taufiq | Yasin | Zulfiqar |  |
|-------|-----|-------|-------|--------|--------|-------|--------|-------|----------|--|
| 0     | 1   | 2     | 3     | 4      | 5      | 6     | 7      | 8     | 9        |  |