

Q2 @ Sorting is a technique to rearrange the elements of a list in ascending or descending order, which can be numerical, lexicographical, or any user-defined order. Sorting is a process through which the data is arranged in ascending or descending order. Sorting can be classified in two types.

Internal sort: This method uses only the primary memory during sorting process. All data items are held in main memory and no secondary memory is required in this sorting process. If all the data that is to be sorted can be accommodated at a time in memory is called internal sorting. There is a limitation for internal sorts; they can only process relatively small lists due to memory constraints. There are 3 types of internal sorts:

i) Select: Selection sort ex: Selection sort algorithm, Heap sort algorithm.

ii) Insertion: Insertion sort ex: Insertion sort algorithm, Shell sort algorithm.

ex) Exchange sort: Ex Bubble sort Algorithm
Quick sort algorithm

External sorts - Sorting large amount of data requires external or secondary memory. The process uses external memory such as HDD, to save the data which is not fit into the main memory. So primary memory holds the currently being sorted data. All external sorts are based on process of merging.

Program

```

/* bubble sort */
#include <stdio.h>
#include <conio.h>
void main ()
{
    int i, n, temp, arr [25];
    clrscr ();
    printf ("Enter the number of elements in
    the array:");
    scanf ("%d", &n);
    printf ("\n Enter the element: ");
    for (i = 0; i < n; i++)
    {

```

Print C " Array [i+d] = arr[i];

scanf C "%d" & arr[i];

}
for (i=0; i<n; i++)

{
if (arr[i] > arr[i+1]) // Bubble
Condition is checked.

{
temp = arr[i];

arr[i] = arr[i+1];

arr[i+1] = temp;

}
}
}

Print C " In The sorted Array is:"

for (i=0; i<n; i++)

{
printf C "%d", arr[i];

}

getch ();

}