

What is Sorting?

- Arranging the data in ascending or descending order is known as **sorting**.
- Sorting is very important from the point of view of our practical life.
- The best example of sorting can be phone numbers in our phones. If, they are not maintained in an alphabetical order we would not be able to search any number effectively.

Types of Sorting

- ❖ Selection sort
- ❖ Bubble sort
- ❖ Insertion sort

Selection sort

- This method of sorting is faster than the bubble sort as the movement of data is minimized.
- Say we want to arrange data in ascending order, the largest number is selected and placed at the end of the list.
- When the next pass takes place the second largest number is selected and placed second last.
- This process is repeated until all the elements are placed in the correct order.
- With each pass the elements are reduced by 1 as one element is sorted and placed in a position.

Example 1: Sort all the element of an array using Selection Sort technique.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int x[5],i,j,t;
clrscr();
printf("\nEnter the array element");
for(i=0;i<5;i++)
scanf("%d",&x[i]);
for(i=0;i<4;i++)
{
for(j=i+1;j<5;j++)
{
if(x[i]>x[j])
{
t=x[i];
x[i]=x[j];
x[j]=t;
}
}
}
for(i=0;i<5;i++)
printf("\n%d",x[i]);
```

Input

i [index no.]	0	1	2	3	4
x [element]	5	7	2	12	6

Output

i [index no.]	0	1	2	3	4
x [element]	2	5	6	7	12

```
getch();  
}
```

Try Yourself:

1. Sort all the element of an array using Selection Sort technique in descending order.