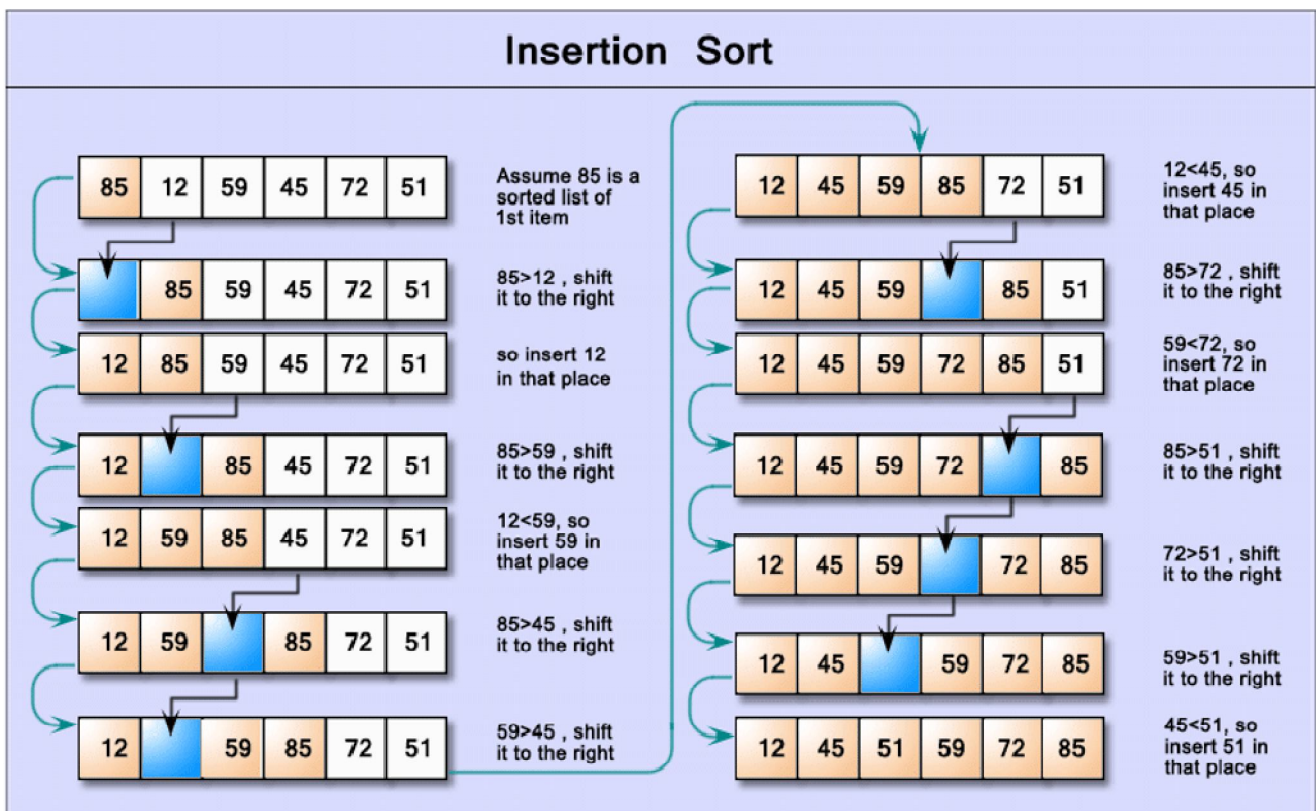


Insertion Sort

There are three types of insertion sort:

- a) Simple insertion sort
 - b) List insertion sort
 - c) Insertion sort using binary search.
- It is more efficient than bubble sort.
 - The logic for this is that every element is picked up and inserted in the proper place i.e. if we pick up one element for inserting, all the other elements will be put in the proper order.

Sorting Technique of Insertion Sort



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

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int arr[5],i,j,k,temp;
    clrscr();
    for(i=0;i<5;i++)
    {
        printf("\nenter the array element");
        scanf("%d",&arr[i]);
    }
}
```

```
}
for(i=1;i<5;i++)
{
for(j=0;j<=i-1;j++)
{
if(arr[i]<arr[j])
{
temp=arr[i];
for(k=i-1;k>=j;k--)
arr[k+1]=arr[k];
arr[j]=temp;
break;
}
}
for(i=0;i<=4;i++)
printf("\n%d",arr[i]);
getch();
}
```

Try Yourself:

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