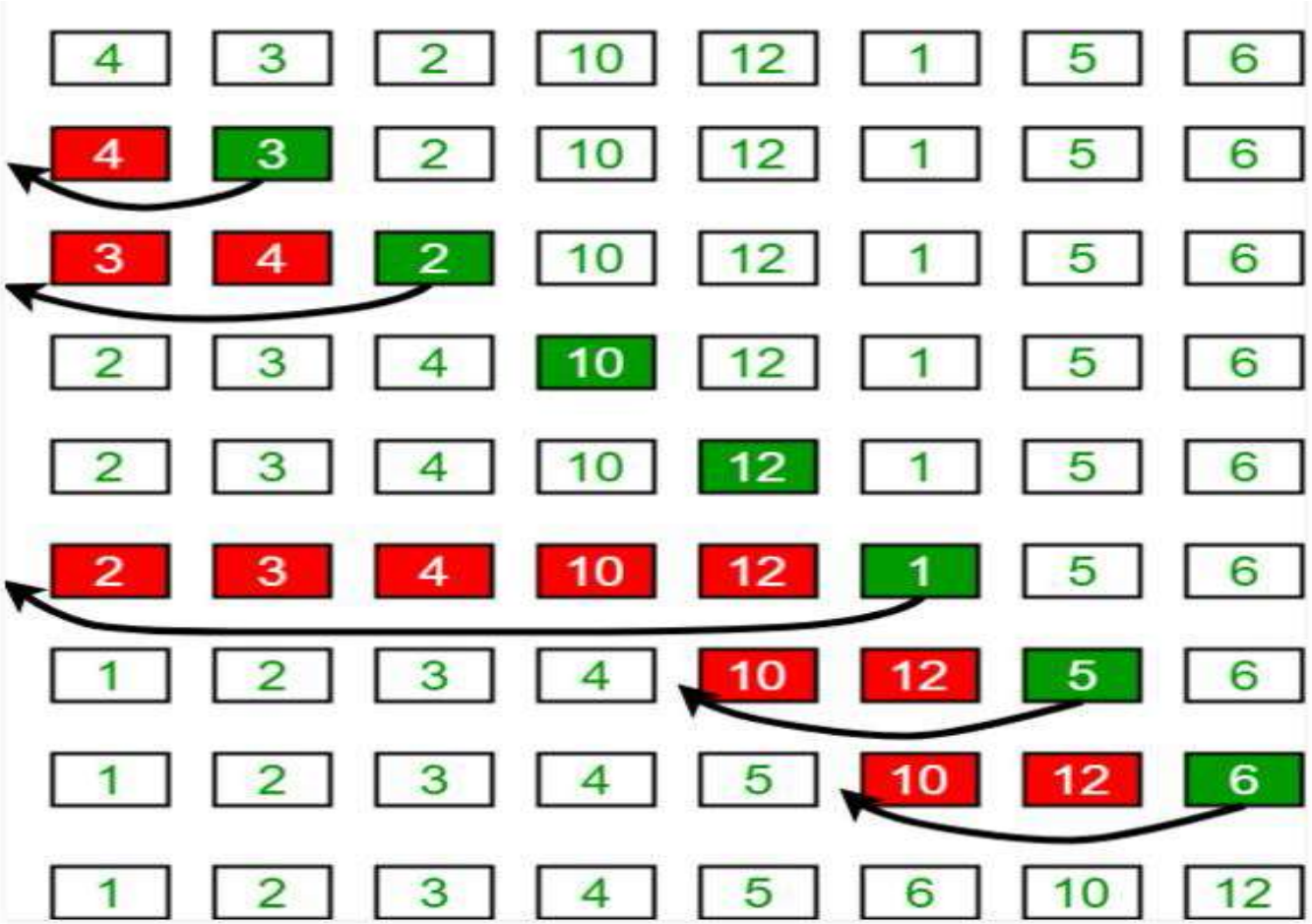
Insertion Sort

Insertion Sorting

- In this method the elements are inserted at their appropriate place.
- Insertion sort is in-place sorting algorithm in which the input is overwritten by output and to execute the sorting method it does not require any more additional space.

Insertion Sorting



Insertion Sorting

```
#include<stdio.h>
#include<conio.h>
int main()
{
int data[100],n,temp,i,j;
clrscr();
printf("Enter number of terms(should be less than 100): ");
scanf("%d",&n);
printf("Enter elements: ");
for(i=0;i<n;i++)
{
scanf("%d",&data[i]);   }
```

Insertion Sorting

```
for(i=1;i<n;i++)
{
temp = data[i];
j=i-1;
while(temp<data[j] && j>=0)
/*To sort elements in descending order, change temp<data[j] to temp>data[j]
    in above line.*/
{
data[j+1] = data[j];
--j;
}
data[j+1]=temp; }
```

Insertion Sorting

```
{
data[j+1] = data[j];
--j;
}
data[j+1]=temp;
}
printf("In ascending order: ");
for(i=0; i<n; i++)
printf("%d\t",data[i]);
getch();
return 0;
}
```

Insertion Sorting

OUTPUT:

Enter number of terms: 5

Enter elements: 4

9

1

5

2

In ascending order: 1 2 4 5 9