Ex. No16

Sort an Array of Integers

Aim:

To write a C program to sort an array of integers by using a function call.

Algorithm:

1) Start the program.
2) Declare integer array ‘a[20]’, ‘i’, ‘n’.
3) Get the number of values ‘n’.
4) For i equal to 0 to ‘n’ do the following
   a). Get the value of integer array ‘a[i]’.
5) Call the function sort(‘a’, ‘n’).
6) For i equal to 0 to n do the following
   a). Display ‘a[i]’.
7) Stop the program.

Function **sort(int *arr, int n)**

1) Start the function.
2) Declare integer ‘temp’, ‘i’, ‘j’.
3) For i equal to 0 to ‘n-1’ do the following
   a. For j equal to 0 to ‘n-i-1’ do the following
      i. Check if ‘arr[j]’>’arr[j+1]’ then
         1. Assign ‘arr[j]’ to temp.
         2. Assign ‘arr[j+1]’ to ‘arr[j]’.
         3. Assign temp to ‘arr[j+1]’.
4) Return to main program.

Program:

```
#include<stdio.h>
#include<conio.h>

void sort(int *, int);

void main()
{
 int a[20],i,n;
 clrscr();
 printf("\nEnter the number of Values: ");
 scanf("%d",&n);
 printf("\nEnter numbers one by one\n");
 for(i=0;i<n;i++)
  scanf("%d",&a[i]);
 sort(a, n);
 printf("\nSorted Numbers are");
 for(i=0;i<n;i++)
  printf("\n%d",a[i]);
 getch();
}

void sort(int *arr, int n)
{
 int i,temp,j;
 for(i=0;i<n-1;i++)
 {
  for(j=0;j<(n-i-1);j++)
  {
   if(arr[j]>arr[j+1])
   {
    temp = arr[j];
    arr[j] = arr[j+1];
    arr[j+1] = temp;
```

```
    }//End of IF
   }//End of FOR J
  }//End of FOR I
 }//End of Function
```


Result:

Thus the C program to sort an array of integers by using a function call is executed successfully.