DATA STRUCTURES-CSA0396

19. Write a C program to arrange a series of numbers using Quick Sort

CODING:

```
#include<stdio.h>
void quicksort(int [],int,int);
int main()
{
  int a[20],n,i;
  printf("Enter size of the array: ");
  scanf("%d",&n);
  printf("Enter %d elements: ",n);
  for(i=0;i<n;i++)
    scanf("%d",&a[i]);
  quicksort(a,0,n-1);
  printf("Sorted elements: ");
  for(i=0;i<n;i++)
    printf(" %d",a[i]);
  return 0;
}
void quicksort(int a[10],int first,int last)
{
    int pivot,j,t,i;
```

```
   if(first<last)
{
      pivot=first;
      i=first;
      j=last;

      while(i<j)
{
         while(a[i] <= a[pivot])
            i++;

         while(a[j]>a[pivot])
            j--;

         if(i<j)
{
            t=a[i];
             a[i]=a[j];
             a[j]=t;
         }
      }
```

```
t=a[pivot];
        a[pivot]=a[j];
        a[j]=t;

        quicksort(a,first,j-1);
        quicksort(a,j+1,last);

    }

}
```

OUTPUT: