Problem Statement : Write C++ program to store first year percentage of students in array. Sort array of floating point numbers in ascending order using quick sort and display top five scores.

```
#include<iostream>
using namespace std;
class sort
{
   int n,arr[];
   public:
   void input();
   void display();
   void quicksort(int start,int end);
   void top5();
   int getn()
   {
      return n;
   }
};
void sort::input()
{
   cout<<"Enter total number of student : ";
   cin>>n;
   cout<<"Enter their roll number : \n";
   for(int i=0;i<n;i++)
   {
      cin>>arr[i];
   }
}
void sort::top5()
{
   int c;
   for(int i=n-1,c=0; i>=0 && c<5;i--,c++)
   {
   cout<<c+1<<" ) "<<arr[i]<<" \n";
```

```
    }
}
void sort::display()
{
    for(int i=0;i<n;i++)
    {
        cout<<arr[i]<<" ";
    }
}
void sort::quicksort(int start,int end)
{
    int pivot,i,j,temp;
    if(start<end)
    {
        pivot=start;
        i=start+1;
        j=end;
        while(i<j)
        {
            while(arr[i]<=arr[pivot] && i<j)
            {
                i++;
            }
            while(arr[j]>=arr[pivot] && i<=j)
            {
                j--;
            }
            if(i<=j)
            {
                temp=arr[i];
                arr[i]=arr[j];
                arr[j]=temp;
            }
        }
        temp=arr[pivot];
        arr[pivot]=arr[j];
```

```
        arr[j]=temp;
        quicksort(start,j-1);
        quicksort(j+1,end);
    }
}
int main()
{
    sort s;
    int num;
    s.input();
    cout<<"Before Sorting : "<<" ";
    s.display();
    cout<<"\nAfter Sorting : "<<" ";
    num=s.getn();
    s.quicksort(0,num-1);
    s.display();
    cout<<"\ntoppers are : \n";
    s.top5();
    return 0;
}
```

Output :-