**Batch :B3**

**Name:Om Chandrakant Mahajan Date:20.02.24**

**Practical Name: To implement Quicksort**

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#include<iostream>

using namespace std;

class Quicksort{

public:

int\*a;

int n;

Quicksort(){

cout<<"enter size of arr";

cin>>n;

a=new int[n];

}

void getdata(){

cout<<"\n Enter"<<n<<"elements";

for(int i=0;i<n;i++){

cin>>a[i];

}

}

void putdata(){

cout<<"Elements before swapping";

for(int i=0;i<n;i++){

cout<<" "<<a[i];

}

}

void sort(int low,int high){

int j;

if(low<high){

j=partition(low,high);

sort(low,j-1);

sort(j+1,high);

}

}

int partition(int low,int high){

int pivot,temp,i,j;

pivot=a[high];

i=low;

j=low;

while(i<=high){

if(a[i]>pivot){

i++;

}

else{

temp=a[i];

a[i]=a[j];

a[j]=temp;

i++;

j++;

}

}

return(j-1);

}

};

int main()

{

Quicksort q;

q.getdata();

cout<<"\n elements before swapping";

q.putdata();

q.sort(0,q.n-1);

cout<<"\n the sorted elements are:";

q.putdata();

return 0;

}

**Output:**

**Enter size of arr5**

**Enter 5 elements**

**12**

**65**

**887**

**12**

**87**

**elements before swappingElements before swapping 12 65 887 12 87**

**the sorted elements are:Elements before swapping 12 12 65 87 887**

**--------------------------------**

**Process exited after 18.58 seconds with return value 0**

**Press any key to continue . . .**