Experiment No 1.4

Quick Sort :

```
#include <iostream>
using namespace std;
void
quick_sort(int[],int,int);
int partition(int[],int,int);
int main()
{
  int a[50],n,i;     cout<<"How
many elements?";     cin>>n;
cout<<"\nEnter array elements:";
  for(i=0;i<n;i++)
       cin>>a[i];
  quick_sort(a,0,n-1);
   cout<<"\nArray after sorting:";
 for(i=0;i<n;i++)
       cout<<a[i]<<" ";
  return 0;
}
void quick_sort(int a[],int l,int u)
{
  int j;
   if(l<u) {
       j=partiti
on(a,l,u);
     quick_sort
```

```
(a,l,j-1);
quick_sort(a,j
+1,u);
  }
}
int partition(int a[],int l,int u)
{
  int v,i,j,temp;
   v=a[l]; i=l;
j=u+1;
  do   {   do    i+
+;
      while(a[i]<v&&i<=u);
      do       j--;
while(v<a[j]);
      if(i<j)
       { temp=a[i];
           a[i]=a[j];
a[j]=temp;

      }
  }while(i<j);
  a[l]=a[j];
   a[j]=v;
  return(j);
}
```

Output :

How many elements?4

Enter array elements:10

2

1

6

Array after sorting:1 2 6 10