**Experiment 2:**

#include <iostream>

using namespace std;

void swap(int\* a, int\* b)

{

int t = \*a;

\*a = \*b;

\*b = t;

}

int partition (int arr[], int low, int high)

{

int pivot = arr[high]; // pivot

int i = (low - 1); // Index of smaller element

for (int j = low; j <= high - 1; j++)

{

// If current element is smaller than the pivot

if (arr[j] < pivot)

{

i++; // increment index of smaller element

swap(&arr[i], &arr[j]);

}

}

swap(&arr[i + 1], &arr[high]);

return (i + 1);

}

void quickSort(int arr[], int low, int high)

{

if (low < high)

{

int pi = partition(arr, low, high);

// Separately sort elements before

// partition and after partition

quickSort(arr, low, pi - 1);

quickSort(arr, pi + 1, high);

}

}

int main()

{

int arr[1000], n, i;

cout<<"Welcome To QUICK SORT"<<endl;

cout<<"Enter the no. of elements"<<endl;

cin>>n;

cout<<"Enter the value of elements"<<endl;

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

{

cin>>arr[i];

}

cout<<"Before sorting"<<endl;

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

{

cout<<":"<<arr[i]<<endl;

}

quickSort(arr, 0, n - 1);

cout<<"After sorting"<<endl;

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

{

cout<<":"<<arr[i]<<endl;

}

return 0;

}

**OUTPUT**

Welcome To QUICK SORT

Enter the no. of elements

5

Enter the value of elements

-98

-109

67

-789

876

Before sorting

:-98

:-109

:67

:-789

:876

After sorting

:-789

:-109

:-98

:67

:876