**Quick Sort**

Code:-

#include <stdio.h>

void swap(int arr[], int i, int j) {

int temp = arr[i];

arr[i] = arr[j];

arr[j] = temp;

}

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

int pivot = arr[high];

int i = low - 1;

for (int j = low; j < high; j++) {

if (arr[j] < pivot) {

i++;

swap(arr, i, j);

}

}

swap(arr, i + 1, high);

return i + 1;

}

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

if (low < high) {

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

quickSort(arr, low, pi - 1);

quickSort(arr, pi + 1, high);

}

}

int main() {

int n;

printf("Enter the number of elements: ");

scanf("%d", &n);

int arr[n];

printf("Enter %d elements:\n", n);

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

scanf("%d", &arr[i]);

}

quickSort(arr, 0, n - 1);

printf("Sorted array: ");

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

printf("%d ", arr[i]);

}

printf("\n");

return 0;

}

Output:-





