#include <stdio.h>

// Function to swap two elements

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

int temp = \*a;

\*a = \*b;

\*b = temp;

}

// Partition function

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

int pivot = arr[high]; // Choosing last element as pivot

int i = low - 1;

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

if (arr[j] < pivot) {

i++;

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

}

}

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

return i + 1;

}

// Quick Sort function

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

if (low < high) {

int pi = partition(arr, low, high); // Partition index

quickSort(arr, low, pi - 1); // Sort left part

quickSort(arr, pi + 1, high); // Sort right part

}

}

int main() {

int arr[] = {33, 10, 55, 71, 29, 3, 18};

int n = sizeof(arr) / sizeof(arr[0]);

printf("Original array:\n");

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

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

quickSort(arr, 0, n - 1);

printf("\nSorted array using Quick Sort:\n");

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

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

printf("\n");

return 0;

}