#include <stdio.h>

// Function to swap two numbers

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

int temp = \*a;

\*a = \*b;

\*b = temp;

}

// Function to partition the array and return the pivot index

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

int pivot = arr[high];

int i = (low - 1);

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

if (arr[j] < pivot) {

i++;

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

}

}

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

return (i + 1);

}

// Function to implement Quicksort

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

if (low < high) {

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

// Recursive calls to sort the sub-arrays

quicksort(arr, low, pivot - 1);

quicksort(arr, pivot + 1, high);

}

}

int main() {

int arr[] = {5, 9, 2, 1, 6, 3};

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

printf("Input Stream: ");

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

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

}

printf("\n");

quicksort(arr, 0, n - 1);

printf("Sorted Stream: ");

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

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

}

printf("\n");

return 0;

}