**DATA STRUCTURE**

**PROGRAMS:**

**1.Bubble Sort**

*#include <stdio.h>*

*void bubbleSort(int arr[], int n) {*

*int i, j, temp;*

*for (i = 0; i < n-1; i++) {*

*for (j = 0; j < n-i-1; j++) {*

*if (arr[j] > arr[j+1]) {*

*temp = arr[j];*

*arr[j] = arr[j+1];*

*arr[j+1] = temp;*

*}*

*}*

*}*

*}*

*void printArray(int arr[], int n) {*

*int i;*

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

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

*}*

*printf("\n");*

*}*

*int main() {*

*int arr[] = {64, 34, 25, 12, 22, 11, 90};*

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

*bubbleSort(arr, n);*

*printf("Sorted array: \n");*

*printArray(arr, n);*

*return 0;*

*}*

**OUTPUT:**

*Sorted array:*

*11 12 22 25 34 64 90*

**2.Selection Sort**

*#include <stdio.h>*

*void selectionSort(int arr[], int n) {*

*int i, j, minIdx, temp;*

*for (i = 0; i < n-1; i++) {*

*minIdx = i;*

*for (j = i+1; j < n; j++)*

*if (arr[j] < arr[minIdx])*

*minIdx = j;*

*temp = arr[minIdx];*

*arr[minIdx] = arr[i];*

*arr[i] = temp;*

*}*

*}*

*void printArray(int arr[], int n) {*

*int i;*

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

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

*}*

*printf("\n");*

*}*

*int main() {*

*int arr[] = {64, 25, 12, 22, 11};*

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

*selectionSort(arr, n);*

*printf("Sorted array: \n");*

*printArray(arr, n);*

*return 0;*

*}*

**OUTPUT:**

*Sorted array:*

*11 12 22 25 64*