**ADA LAB-5**

* **INSERTION SORT WITH TIME COMPLEXITY**
  + **PROGRAM**

#include <math.h>

#include <stdio.h>

void insertionSort(int arr[], int n)

{

int i, key, j;

for (i = 1; i < n; i++) {

key = arr[i];

j = i - 1;

while (j >= 0 && arr[j] > key) {

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

j = j - 1;

}

arr[j + 1] = key;

}

}

void printArray(int arr[], int n)

{

int i;

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

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

printf("\n");

}

int main()

{

int size;

printf("Enter size of array: ");

scanf("%d",&size);

int arr[size];

printf("Enter the elements: ");

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

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

}

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

insertionSort(arr, n);

printArray(arr, n);

return 0;

}

* + **OUTPUT**

