| Program Name: | 03 |
| --- | --- |
| Roll No: | 1510 |
| Title of Program: | Insertion Sort |
| Objective: | Learning to implement Insertion Sort |

**CODE:**

**/\* Name: Advait Dhakad**

**Roll No: 1510**

**UNIT 1: Sorting and Searching**

**Program: Insertion Sort**

**\*/**

**#include<iostream>**

**using namespace std;**

**int main()**

**{**

**int arr[10],n,i, tmp, pos;**

**cout << "\t \*\*\*\* Insertion Sort \*\*\*\n"<< endl;**

**cout << "Enter the size of the Array: ";**

**cin >> n;**

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

**cout << "Enter the elements at index " << i << ": ";**

**cin >> arr[i];**

**}**

**cout << "\n Orginal Array: ";**

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

**cout << arr[i] << " ";**

**}**

**// Insertion Sort**

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

**tmp = arr[i];**

**pos = i-1;**

**while (tmp < arr[pos] && pos>=0){**

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

**pos--;**

**}**

**arr[pos+1] = tmp; // temp at correct position**

**}**

**cout << "\n Sorted Array: ";**

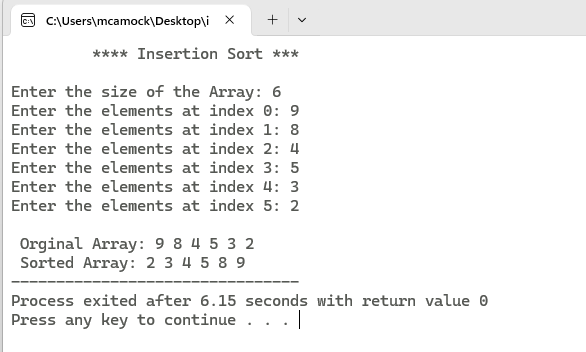
**for(i=0; i<n; i++){**

**cout << arr[i] << " ";**

**}**

**}**

**OUTPUT:**

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