

Question 7

```
#include <iostream>
```

```
using namespace std;
```

```
int SecondLargest (int arr[], int size) {
```

```
    int Largest = arr[0];
```

```
    int secondLargest = INT_MIN;
```

```
    for (int i = 1; i < size; i++) {
```

```
        if (arr[i] > Largest) {
```

```
            secondLargest = arr[i];
```

```
        }
```

```
    }
```

```
    return secondLargest;
```

```
}
```

```
void InsertionSort (int arr[], int size)
```

```
{
```

```
    int key;
```

```
    int j;
```

```
    for (int i = 1; i < size; i++) {
```

```
        key = arr[i];
```

```
        j = i - 1;
```

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

```
{
    arr[j+1] = arr[i];
```

```
    j--;
```

```
}
```

```
arr[i+1] = 100;
```

```
}
```

```
}
```

```
int main()
```

```
{
```

```
    int size;
```

```
    cout << "enter the size of array: " << endl;
```

```
    cin >> size;
```

```
    int* arr = new int[size];
```

```
    cout << "enter " << size << " element: " << endl;
```

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

```
        cin >> arr[i];
```

```
}
```

```
    int secondLarge = secondLarge(arr, size);
```

```
    cout << "the 2nd largest element is: " << a
```

```
    secondLarge << endl;
```

```

InsertionSort (arr, size);
cout << "sorted array : ";
print_arr (arr, size);
int k;
cout << "Enter the value of k to get kth
largest element : ";
cin >> k;
cout << "The " << k << "th " << "largest element
is " << get_element (arr, size - k);
delete arr;
return 0;
}

```

explanation :

The kth largest element is found by sorting the array in ascending order and finally returning element at $(size - k)$ th index.