

## SECOND LARGEST ELEMENT IN AN ARRAY

### PROBLEM STATEMENT :

Write a program to find the second-largest element in an array of integers without using any sorting algorithms or built-in array functions.

### Constraint :

Traverse the array manually to find both the largest and second-largest elements.

### Code ( In python ):

```
n = int(input())

if n <= 1:
    print("Second Largest Number does not exist")
else:
    arr = []
    for idx in range(n):
        arr.append(int(input()))

    max1 = float('-inf')
    max2 = float('-inf')

    for num in arr:
        if num > max1:
```

```
    max2 = max1
    max1 = num
elif num > max2 and num < max1:
    max2 = num

if max2 == float('-inf'):
    print("No second largest number found")
else:
    print("The second largest number is:", max2)
```

### **Test Cases :**

### **Sample Inputs and Outputs:**

#### **Input:**

5  
10  
20  
30  
20  
10

#### **Output:**

20

#### **Input:**

3

5

5

5

**Output:**

No second largest number found

**Input:**

1

**Output:**

No second largest number found