📝 C++ Programming Question: Find the Largest and Second Largest Elements

📌 Problem Statement:

Write a C++ program that reads `n` integers from the user and finds:

1. The **largest** number in the list.
2. The **second largest** number in the list.

Your program must then print both numbers in the following format:

```
<largest> <second_largest>
```

📥 Input Format:

- The first line contains a single integer `n` — the number of elements in the array. ($1 \leq n \leq 100$)
- The second line contains `n` space-separated integers — the elements of the array.

📤 Output Format:

- Print two space-separated integers: the largest number and the second largest number in the array.

❗ Constraints:

- All integers are within the range -10^6 to 10^6.
- It is guaranteed that the array contains at least **two distinct elements**.

🧪 Sample Input 1:

```
6
5 2 8 4 9 3
```

✅ Sample Output 1:

```
9 8
```

🧪 Sample Input 2:

```
4
1 1 2 2
```

✅ Sample Output 2:

```
2 1
```

💡 Explanation:

Sample 1:

- The largest number is `9`.
- The second largest number is `8`.

Sample 2:

- The largest is `2`.
- The second largest (distinct) is `1`.

🛠️ Implementation Tip:

Use one loop to find the maximum, and another to find the maximum value that is **less than** the maximum (i.e. second largest).

🪛 Sample Code:

cpp

```c
#include <stdio.h>

int main() {
    int n;
    scanf("%d", &n); // Read the number of elements

    int a[100]; // Declare an array to hold up to 100 integers

    // Input the array elements
    for(int i = 0; i < n; i++)
        scanf("%d", &a[i]);

    // Step 1: Find the largest number (max)
    int max = a[0]; // Start by assuming the first element is the largest
    for(int j = 1; j < n; j++)
    {
        if(a[j] > max) // If a larger number is found, update max
            max = a[j];
    }

    // Step 2: Find the second largest number (max2)
    int max2 = a[0]; // Start from the first element again
    for(int k = 0; k < n; k++)
    {
        // Check if current element is less than max and greater than current max2
        if(a[k] > max2 && a[k] < max)
            max2 = a[k];
    }

    // Output the largest and second largest numbers
    printf("%d %d", max, max2);

    return 0;
}
```