

Experiment 5 : Array

1. WAP to read a list of integers and store it in a single dimensional array. Write a C program to print the second largest integer in a list of integers.

```
#include <stdio.h>
int main() {
    int n;
    printf ("Enter the number of elements : ");
    scanf ("%d", &n);
    int arr[n];
    printf ("Enter %d integers : ", n);
    for(int i=0 ; i<n ; i++) {
        scanf ("%d", &arr[i]);
    }
    int largest, secondLargest;
    if (arr[0] > arr[1]) {
        largest = arr[0];
        secondLargest = arr[1];
    }
    else {
        largest = arr[1];
        secondLargest = arr[0];
    }
    for (int i=2 ; i<n ; i++) {
        if (arr[i] > largest) {
            secondLargest = largest;
            largest = arr[i];
        }
        else if (arr[i] > secondLargest) {
            secondLargest = arr[i];
        }
    }
    printf ("Second Largest element is : %d", secondLargest);
}
```

```
largest = arr[i];
```

```
}
```

```
else if (arr[i] > secondLargest && arr[i] != largest) {
```

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

```
}
```

```
}
```

```
printf ("Second largest number is : %d \n", secondLargest);
```

```
return 0;
```

```
}
```

C exp3loopspyramid1.c

C exp5store.c X

C exp6gcd.c

C cfiles.c

▷

C exp5store.c > ...

```
1
2 #include <stdio.h>
3
4 int main() {
5     int n;
6
7     // Ask user for number of elements
8     printf("Enter the number of elements: ");
9     scanf("%d", &n);
10
11    int arr[n];
12
13    // Read elements into array
14    printf("Enter %d integers:\n", n);
15    for (int i = 0; i < n; i++) {
16        scanf("%d", &arr[i]);
17    }
18
19    int largest, secondLargest;
20
21    // Initialize largest and secondLargest
22    if (arr[0] > arr[1]) {
23        largest = arr[0];
24        secondLargest = arr[1];
25    } else {
26        largest = arr[1];
27        secondLargest = arr[0];
28    }
29
30    // Find second largest
31    for (int i = 2; i < n; i++) {
32        if (arr[i] > largest) {
33            secondLargest = largest;
```

```
33         secondLargest = largest;
34         largest = arr[i];
35     } else if (arr[i] > secondLargest && arr[i] != largest) {
36         secondLargest = arr[i];
37     }
38 }
39
40 printf("Second largest number is: %d\n", secondLargest);
41
42 return 0;
43 }
44
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE PORTS

```
> cd "c:\Users\abiga\OneDrive\Desktop\Absproj\" ; if (?) {
p5store.c -o exp5store } ; if (?) { .\exp5store }
Enter the number of elements: 5
Enter 5 integers:
3 7 89 76 4
Second largest number is: 76
PS C:\Users\abiga\OneDrive\Desktop\Absproj>
```