

(DSA LAB REPORT 01)

NAME: Warda Javed 094

ET (B)

(Program 1)

```
#include <iostream>
using namespace std;
int main() {
    int marks[10];
    int first = -1, second = -1;
    cout << "Enter 10 marks: ";
    for (int i = 0; i < 10; i++) {
        cin >> marks[i];
    }
    for (int i = 0; i < 10; i++) {
        if (marks[i] > first) {
            second = first;
            first = marks[i];
        }
        else if (marks[i] > second && marks[i] != first) {
            second = marks[i];
        }
    }
    cout << "1st highest mark = " << first << endl;
    cout << "2nd highest mark = " << second << endl;
    return 0;
}
```

OUTPUT:

```
C:\Users\iqrar\OneDrive\Docu  X + v
Enter 10 marks: 100
123
456
678
89
87
65
55
44
33
1st highest mark = 678
2nd highest mark = 456

-----
Process exited after 13.03 seconds with return value 0
Press any key to continue . . . |
```

PROGRAM 2

```
#include <iostream>
using namespace std;
int main() {
    int n;
    cout << "Enter size of array: ";
    cin >> n;
    int arr[n];
    cout << "Enter " << n << " elements in ascending order:\n";
    for (int i = 0; i < n; i++) {
        cin >> arr[i];
    }
    int key;
    cout << "Enter number to search: ";
    cin >> key;
    int low = 0, high = n - 1;
    bool found = false;

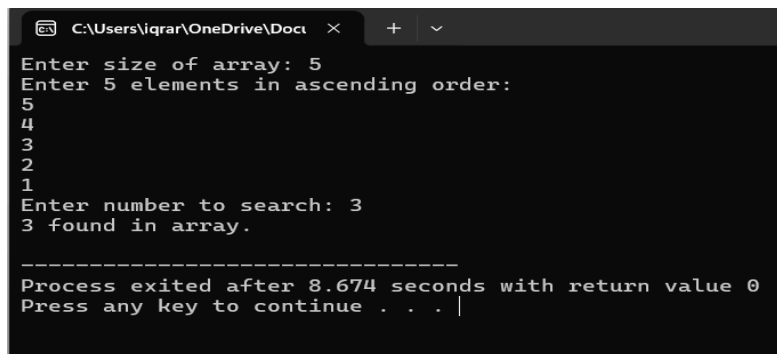
    while (low <= high) {
        int mid = (low + high) / 2;
```

```

    if (arr[mid] == key) {
        found = true;
        break;
    }
    else if (arr[mid] < key) {
        low = mid + 1;
    }
    else {
        high = mid - 1;
    }
}
if (found)
    cout << key << " found in array.\n";
else
    cout << key << " not found in array.\n";
return 0;
}

```

Output:



```

C:\Users\Iqar\OneDrive\Doc...
Enter size of array: 5
Enter 5 elements in ascending order:
5
4
3
2
1
Enter number to search: 3
3 found in array.

-----
Process exited after 8.674 seconds with return value 0
Press any key to continue . . . |

```

(PROGRAM 03)

```

#include <iostream>
using namespace std;
int main() {
    int marks[6];

```

```

int sum = 0;
cout << "Enter marks of 6 subjects: ";
for (int i = 0; i < 6; i++) {
    cin >> marks[i];
    sum += marks[i];
}
float average = sum / 6.0;

cout << "Average Marks: " << average << endl;
cout << "Grade: ";
if (average > 90)
    cout << "A\n";
else if (average > 80)
    cout << "A\n";
else if (average > 70)
    cout << "B\n";
else if (average > 60)
    cout << "C\n";
else if (average > 50)
    cout << "D\n";
else
    cout << "F\n";
return 0;
}

```

OUTPUT:

```
C:\Users\iqrar\OneDrive\Docu  X  +  v
Enter marks of 6 subjects: 24
20
21
22
23
25
Average Marks: 22.5
Grade: F

-----
Process exited after 14.18 seconds with return value 0
Press any key to continue . . . |
```