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**Subject:**

"DSA LAB "

**Section**

# BSSE-3A

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## (Lab Task 2)

### **Q1: Big O Notation (Loops and Arrays)**

**Task:** Implement a function that finds the maximum value in an array of size  $n$ . Determine its time complexity and explain why it is  $O(n)$ .

**Answer:**

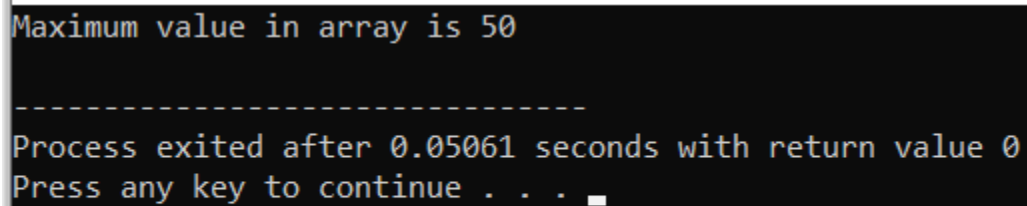
```
#include<stdio.h>
```

```
int findMax(int arr[], int n) {  
    int max = arr[0];  
    for (int i = 1; i < n; i++) {  
        if (arr[i] > max)  
            max = arr[i];  
    }  
    return max;  
}
```

```
int main() {  
    int arr[] = {10, 20, 30, 40, 50};  
    int n = sizeof(arr)/sizeof(arr[0]);
```

```
int max_val = findMax(arr, n);  
printf("Maximum value in array is %d\n", max_val);  
return 0;  
}
```

## Output:

A screenshot of a terminal window with a black background and light blue/grey text. The output shows the program's result and its execution details.

```
Maximum value in array is 50  
-----  
Process exited after 0.05061 seconds with return value 0  
Press any key to continue . . . █
```