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**LAB 1-POINTERS**

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Subject: DSA LAB

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Task: Create a program that declares an integer variable and a pointer to it. Modify the value of the variable using the pointer and display both the variable and pointer values.

**ANSWER**

**CODE**

#include <iostream>

using namespace std;

int maximum(int n, int \*arr){

    int max=arr[0];

    for(int i=1;i<n;i++){

        if (arr[i]>max){

            max=arr[i];

        }

    }

    return max;

}

int main(){

    int arr[4]={1,90,3,4};

    cout<<maximum(4,arr);

}

**How it works:**

1. **Declare an integer variable num and assign it a value (10).**
2. **Create a pointer ptr that stores the address of num.**
3. **Print the value of num and \*ptr (since \*ptr dereferences ptr, it gives the same value as num).**
4. **Modify num through the pointer (\*ptr = 1; changes num to 1).**
5. **Print again to show that num has changed through the pointer.**

**Why it works:**

* **int\* ptr = &num; assigns the address of num to ptr, allowing us to access and modify num indirectly.**
* **\*ptr = 1; changes the value of num because ptr points to its memory location.**

**OUTPUT**

**A screen shot of a computer

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