

CODE AND ALGORITHM

*/*Algorithm*

- 1.Take the input arr[] from user.*
- 2.Take element you want to search in the array from the user.*
- 3.Set flag variable as 0.*
- 4.Loop: arr[start]->arr[end]*
- 5.If match found then print match is found and set flag=1 and abort the loop.*
- 6.After loop check variable flag. If flag==0 then print no match is found.*
- 7.STOP*

Time Complexity: O(N)

Space Complexity: O(N)

N is the size of the array./*

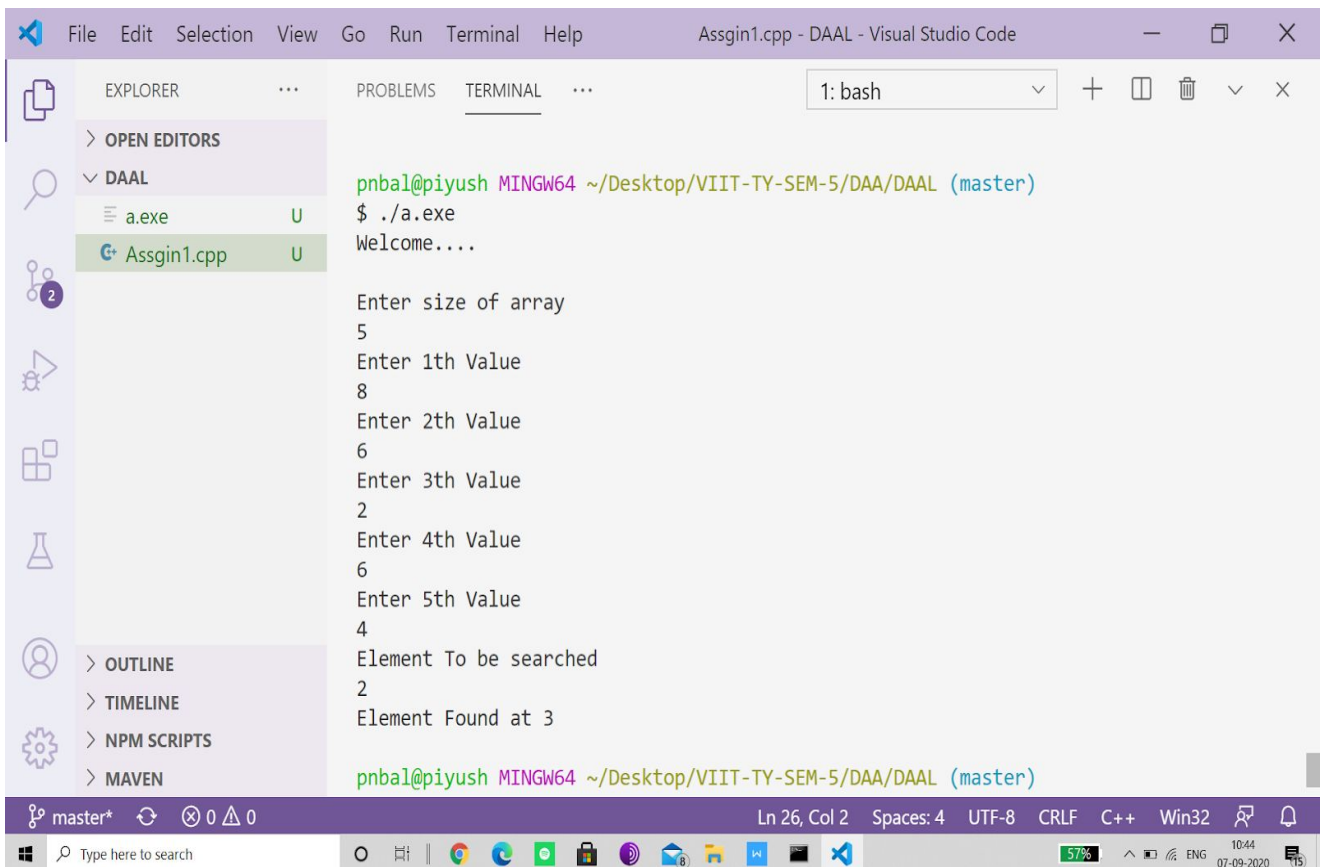
```
#include<iostream>
#include<vector>
using namespace std;
int main() {
    cout<<"Welcome....\n\n";
    int n;
    cout<<"Enter size of array\n";
    cin>>n;
    vector<int> arr(n,0);
    for(int i=1;i<n+1;i++)
    {
        cout<<"Enter "<<i<<"th"<<" Value\n";
        cin>>arr[i-1];
    }
    int x;
```

CODE AND ALGORITHM

```
cout<<"Element To be searched\n";
cin>>x;
for(int i=0;i<n;i++)
{
    if(arr[i]==x)
        { cout<<"Element Found at "<<i+1<<"\n"; return 0;}

}
cout<<"Element not Found\n";
}
```

OUTPUT



The screenshot shows the Visual Studio Code interface with the terminal output of a C++ program. The program prompts the user to enter the size of the array, followed by five values. It then prompts for the element to be searched and displays the result.

```
pnbal@piyush MINGW64 ~/Desktop/VIIT-TY-SEM-5/DAA/DAAL (master)
$ ./a.exe
Welcome....

Enter size of array
5
Enter 1th Value
8
Enter 2th Value
6
Enter 3th Value
2
Enter 4th Value
6
Enter 5th Value
4
Element To be searched
2
Element Found at 3

pnbal@piyush MINGW64 ~/Desktop/VIIT-TY-SEM-5/DAA/DAAL (master)
```