CA2
Cap770

Name : Kaushik Pathak
Reg no. 12325859
Roll no. 32

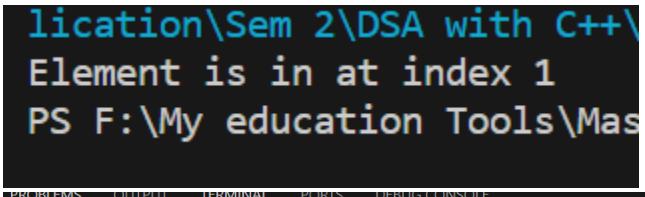
Binary Search >>

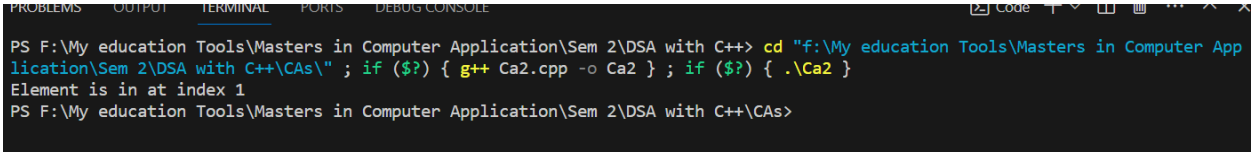
Initially we take a function name as a BinarySearch().
In that function we take an Array, Lowest value, Highest value and the Target value.
Basically in binary search its follow the Divide and conquer rule
therefore we have to find the mid value in the array and find out the Target value
If mid value is equal to target value then its return the index value other than its check for higher than Mid value of Lower than Mid value
If mid value is lower than Mid value than its check for left side value and repeat the mid value process. If the target value is lower than mid value, then its return the value.
else if the target value is higher than mid value then also it repeats Sthe processes again to find the target value.

CODE:

```
#include<iostream>

using namespace std;


int biS(int arr[], int l, int r, int x)

{
        while (l <= r) {
                int m = l + (r - l) / 2;
                if (arr[m] == x)
                        return m;
                if (arr[m] < x)
                        l = m + 1;
                else
                        r = m - 1;
        }
```

```
        return -1;
}

int main(void)
{
        int arr[] = { 2, 3, 4, 5,7,8 };
        int x = 3;
        int n = sizeof(arr) / sizeof(arr[0]);
        int result = biS(arr, 0, n - 1, x);
        (result == -1)
                ? cout << "Element is not present in array"
                : cout << "Element is in at index " << result;
        return 0;
}
```





THANKYOU