

## Program - 02

**Title :**

**Write a Program to implement binary search algorithm.**

**Code:**

```
#include <stdio.h>

int main() {
    int arr[50], n, search, i, first, last, middle;

    printf("Enter array size: ");
    scanf("%d", &n);

    printf("Enter %d elements (in sorted order):\n", n);
    for(i=0; i<n; i++)
        scanf("%d", &arr[i]);

    printf("Search element: ");
    scanf("%d", &search);
    printf("\n===== \n ");
    first = 0;
    last = n - 1;
    middle = (first + last) / 2;


    while(first <= last) {
        if(arr[middle] < search)
            first = middle + 1;
        else if(arr[middle] == search) {
            printf("%d is present at index %d.\n", search, middle);
            break;
        }
        else
            last = middle - 1;

        middle = (first + last) / 2;
    }

    if(first > last)
        printf("%d is not present in the array.\n", search);

    return 0;
}
```

**Output :**

 Command Prompt

```
C:\Users\hp\Desktop\c program>gcc 1.c
C:\Users\hp\Desktop\c program>1
Enter array size: 5
Enter 5 elements (in sorted order):
1 3 5 6 7
Search element: 4
4 is not present in the array.
```

Date : \_\_/\_\_/\_\_

Teacher Sign .....

