

PROGRAM FOR LINEAR SEARCH

```
1    #include<stdio.h>

2    void main()

3    {

4        int n,i,x,flag=0,count=0,t=0;

5        printf("Enter the number of elements: ");

6        scanf("%d",&n);

7

8        int a[n];

9        t++;

10       for (i=0;i<n;i++)

11       {

12           t++;

13           printf("Enter the element: ");

14           scanf("%d",&a[i]);

15       }

16

17       t++;
```

```
18         for (i=0;i<n;i++)
19         {
20             t++;
21             printf("%d\t",a[i]);
22         }
23         printf("\n");
24
25         printf("Enter the number to be searched: ");
26
27         scanf("%d",&x);
28
29         t++;
30
31         for (i=0;i<n;i++)
32         {
33             t++;
34             count++;
35             if (a[i]==x)
36             {
37                 flag=1;
38                 break;
```

```
37         }

38     }

39

40     t++;

41     t++;

42     if (flag==1)

43         printf("Number %d found at location %d\n",x,count);

44

45     else if (flag==0)

46         printf("Number not found\n");

47

48     printf("Space Complexity = %d\n",((5*4)+(n*4)));

49     printf("Time Complexity = %d\n",(10+t));

50 }
```