

DATA STRUCTURES –CSA0396

8. Write a C program to search a number using Linear Search method

CODING:.

```
#include<stdio.h>

int search(int a[],int search, int size){
    int i;
    for(i = 0;i<size;i++){
        if(search == a[i]){
            return i;
            break;
        }
    }
    if(i == size){
        return -1;
    }
}

int main(){
    int n;
    printf("Enter Array Size : ");
    scanf("%d", &n);
    int arr[n];
    printf("Enter ArraY Elements : ");
    for(int i = 0;i <n;i++){
        scanf("%d", &arr[i]);
    }
    int s;
```

```

printf("Enter Search Element :");

scanf("%d", &s);

int inx = search(arr,s,n);

if(inx != -1){

printf("Element Found at : %d ", inx);

}

else{

printf("Element Not Found");

}

return 0;

}

```

OUTPUT:



The screenshot shows a C program being executed in an IDE. The code on the left defines a search function and a main function. The main function prompts the user for array size, elements, and a search element. The output on the right shows the program's execution with the following inputs and results:

```

main.c
10- if(i == size){
11- return -1;
12- }
13- }
14- int main(){
15- int n;
16- printf("Enter Array Size : ");
17- scanf("%d", &n);
18- int arr[n];
19- printf("Enter Array Elements : ");
20- for(int i = 0; i < n; i++){
21- scanf("%d", &arr[i]);
22- }
23- int s;
24- printf("Enter Search Element :");
25- scanf("%d", &s);
26- int inx = search(arr,s,n);
27- if(inx != -1){
28- printf("Element Found at : %d ", inx);
29- }
30- else{
31- printf("Element Not Found");
32- }
33- return 0;
34- }

```

Output:

```

/tmp/c9yUKMoYtC.o
Enter Array Size : 3
Enter Array Elements : 45
45
12
Enter Search Element :12
Element Found at : 2

```