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200801199@rajalakshmi.edu.in

NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Problem Solving Through Programming In C (course)

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Course outline

- How does an NPTEL online course work? ()
- Week 0 : ()
- Week 1 ()
- Week 2 ()
- Week 3 ()
- Week 4 ()
- Week 5 ()
- Week 6 ()
- Week 7 ()

Week 9 : Programming Assignment 2

Due on 2023-09-28, 23:59 IST

Write a C program to search a given element from a 1D array and display the position at which it is found by using linear search function. The index location starts from 1.

Private Test cases used for evaluation	Input	Expected Output	Actual Output	Status
Test Case 1	4 45 65 85 25 95	95 is not present in the array.	95 is not present in the array.	Passed
Test Case 2	5 6 9 5 4 7 6	6 is present at location 1.	6 is present at location 1.	Passed

The due date for submitting this assignment has passed.
2 out of 2 tests passed.
You scored 100.0/100.

Assignment submitted on 2023-09-28, 22:05 IST
Your last recorded submission was :

```
1 #include <stdio.h>
2 int linear_search(int[], int, int);
3 int main()
4 {
```

Week 8 ()

Week 9 ()

Week 10 ()

Week 11 ()

Week 12 ()

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```
   int array[100], search, c, n, position;
   /* search - element to search, c - counter, n - number of elements in arra
   position - The position in which the element is first found in the list. *

    scanf("%d", &n); // Number of elements in the array is read from the test

    for (c = 0; c < n; c++)
    scanf("%d", &array[c]); //Elements of array is read from the test data

    scanf("%d", &search);  //Element to search is read from the test case dat

   /* Use the following in the printf statement to print the output
   printf("%d is not present in the array.", search);
   printf("%d is present at location %d.", search, position+1); //As array[0]
   */
int flag=0;
for(c=0;c<n;c++)
{
  if(array[c]==search)
  {
    flag=1;
    printf("%d is present at location %d.",search, c+1);
    break;
  }
}
if(flag==0)
{
  printf("%d is not present in the array.",search);
}
return 0;
}
```

Sample solutions (Provided by instructor)

```
#include <stdio.h>
int linear_search(int[], int, int);
int main()
{
   int array[100], search, c, n, position;
   /* search - element to search, c - counter, n - number of elements in arra
   position - The position in which the element is first found in the list. *

    scanf("%d", &n); // Number of elements in the array is read from the test

    for (c = 0; c < n; c++)
    scanf("%d", &array[c]); //Elements of array is read from the test data

    scanf("%d", &search);  //Element to search is read from the test case dat

   /* Use the following in the printf statement to print the output
   printf("%d is not present in the array.", search);
   printf("%d is present at location %d.", search, position+1); //As array[0]
   */
position = linear_search(array, n, search);

   if (position == -1)
      printf("%d is not present in the array.", search);
   else
      printf("%d is present at location %d.", search, position+1);
   return 0;
}

int linear_search(int a[], int n, int find) {
   int c;
   for (c = 0 ;c < n ; c++ )
    {
      if (a[c] == find)
         return c;
    }
   return -1;
```

```
37 }
```