

CSE 115 Lab on 1D Array – Ara2

1. Following is a C program to search an element of an array:

```
#include<stdio.h>

int main() {
    int ele, num, i;

    printf("\nEnter no of elements :");
    scanf("%d", &num);
    int a[num];
    printf("\nEnter the values :");
    for (i = 0; i < num; i++) {
        scanf("%d", &a[i]);
    }

    //Read the element to be searched
    printf("\nEnter the elements to be searched :");
    scanf("%d", &ele);

    //Search starts from the zeroth index
    for (i=0; i < num;i++) {
        if(ele == a[i]){
            printf("Number found at the index = %d", i);
            break;
        }

        if (i == num) {        //if i reached to num (i.e., loop ended) then number not found
            printf("Number not found");
        }
    }
}
```

Try yourself 1: Modify the above code to print all the indexes/locations of a given number in a 100 element integer array.

NOTE:

A **string** is a char array which ends with a null character (' \0 ').

That is, if a string is hello, then the array containing the string will be as follows:

h	e	l	l	o	\0
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2. C program to find the indexes of an input character in a string and then print its frequency.

```
1. #include <stdio.h>
2. #include <string.h>
3.
4. void main()
5. {
6.     char a, word[50];
7.     int i, freq = 0, flag = 0;
8.     printf("Enter character: ");
9.     scanf("%c", &a);
10.    printf("Now enter the word: ");
11.    scanf("%s", word);
12.    printf("Positions of '%c' in %s are: ", a, word);
13.    for (i = 0; i < strlen(word); i++) {
14.        if (word[i] == a)
15.        {
16.            flag = 1;
17.            printf("%d ", i + 1);
18.            freq++;
19.        }
20.    }
21.    if (flag)
22.        printf("\nCharacter '%c' occurred for %d times.\n", a, freq);
23.    else
24.        printf("Given character was not found\n");
25. }
```

Exercise.

1. Write a C program to read a 1000 element integer array from user and then prints the sum of positive numbers in it.
2. Write a C program to read a 1000 element integer array from user and then prints the minimum element in it.

Assignments:

1. Write a C program to read a string and then prints its reverse. E.g. if the input string is "Hello" your program should print "olleH".
2. Write a C program to count total number of vowels and consonants in a string.
3. Write a C program to count total number of words in a string.
4. Write a C program to check whether a string is palindrome (e.g. "madam", "kayak", "rotor", "ala", etc.) or not.
5. Write C program to count the number of capital and small letters in an input string and print those numbers.