CSE115L – Programming Language I Lab
Lab - 13
1-D Array

Example 1: C Program that prints the odd & the even numbers in an array separately

```
#include <stdio.h>
void main()
{
    int i, num;
    printf("Enter size of
array:");
    scanf("%d", &num);
    int array[num];

    printf("Enter its
elements\n");
    for (i = 0; i < num; i++)
        scanf("%d", &array[i]);
  printf("Even numbers in the array are:");
  for (i = 0; i < num; i++) {
      if (array[i] % 2 == 0)
          printf("%d \t", array[i]);
  }
  printf("\nOdd numbers in the array are:");
  for (i = 0; i < num; i++) {
      if (array[i] % 2 != 0)
          printf("%d \t", array[i]);
  }
}//main
```

Try yourself 1: Write a program that prints the no. of odd & no. of even numbers in an array.

Example 2: C Program to find the largest value in a float type array

```
#include <stdio.h>
void main()
{
    int i,n;
    printf("No. of elements: ");
    scanf("%d",&n);
    float arr[n], max;
    printf("Enter %d numbers: ",n);
    for(i=0; i<n; ++i) // fill up array by user inputs
        scanf("%f",&arr[i]);
    max = arr[0]; //initially assume arr[0] is the max
    for(i=1; i<n; ++i) {
        if(max < arr[i]) //update max if arr[i] > current value of max
            max=arr[i];
    }
    printf("maximum=%.2f",max);
}
```

Example 3: C Program to read two arrays from user, add them, and then output their sum

```
#include<stdio.h>
void main()
{
  int i, n;
  printf("No. of elements: ");
  scanf("%d",&n);
  int a[n],b[n],c[n];
    printf("Enter 2nd array:");
    for (i=0; i<n; i++)
        scanf("%d",&b[i]);

    //compute sum of two arrays
    for(i=0; i<n; i++)
    {
        c[i]=a[i]+b[i];
```

```
  printf("Enter 1st array:");
  for (i=0; i<n; i++)
      scanf("%d",&a[i]);
          printf("\n %d+ %d=%d",a[i],b[i],c[i]);
      }
}
```

Try yourself 2: Write a program reads two arrays from user and then output their product.

Example 4: C Program to read an array from user and an index and then delete the element in that index of array

```
#include<stdio.h>
void main()
{
    int num, i, k;
    printf("\nEnter no of elements :");
    scanf("%d", &num);
    int arr[num];
    //Read elements in an array
    printf("\nEnter %d numbers :", num);
    for (i = 0; i < num; i++)
        scanf("%d", &arr[i]);
    printf("Index of element to
delete:");
    scanf("%d", &k);
//shift each array element one cell
//left, starting from index k+1
    for(i=k; i<num-1; i++)
        arr[i] = arr[i+1];

    num--;  // decrease No of
elements

    printf("Array after deleting the
element at index: %d\n", k);
    for (i = 0; i < num; i++)
        printf("%d ", arr[i]);
}
```

Example 5: C Program to find the number of spaces in a string (character array)

```
#include<stdio.h>
void main()
{
    char s[100];//assume that user won't enter a string of size > 100
    int i,numSpace=0;//counter to count #of spaces
    printf("Enter a string:");
    gets(s); //read string from user
    for(i=0; s[i]!='\0'; i++) {
        if(s[i] == ' ') numSpace++;
    }
    printf("%d spaces\n", numSpace);
}
```

Perform the following tasks.

Task 1: Declare two integer arrays, **A** and **B**, of size 5. Take user input for both arrays and determine whether the two arrays are identical or not. Two arrays are identical if both contain same values at same indices. Print "Identical" or "Not identical" based on your finding.

Task 2: Read 10 integers from the user and store them in an array. Take another integer from the user and check whether it is in the array (print "Found" in that case) or not (print "Not found").

Task 3: Read 10 integers from the user and store them in an array. Then find the largest element in the array.