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

```c
#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]);
```
```c
    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
```

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

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

```c
#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);
}
```

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

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

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

<u>**Try yourself 2:**</u> **Write a program reads two arrays from user and then output their product.**

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

```c
#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]);
}
```

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

```c
#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);
}
```

6. Passing array as an argument of a function:

```c
#include <stdio.h>
double getAverage(int arr [], int size){
    int i;
    double avg, sum=0;
    for (i=0; i< size; i++){
     sum += arr[i] ;
   }
   avg = sum/size;
   return avg;
}

void main()
{
  int balance [5] = {1000, 2, 3, 17, 50};
  double avg;
  avg = getAverage( balance , 5 );
  printf("Average is: %f ", avg);
}
```

7. Passing string as an argument of a function and update that string within the function:

```c
#include <stdio.h>
#include<ctype.h>
#define SIZE 100

void changeCase(char s[])
{
    int i;

    for (i = 0; s[i] != NULL; i++)
    {
        if (isupper(s[i]))
            s[i] = tolower(s[i]);
        else if (islower(s[i]))
            s[i] = toupper(s[i]);
    }
}

void main ()
{
        char str[SIZE];

        printf ("Enter a string of length < %d : ", SIZE);
        gets(str);

        changeCase(str);
        puts(str);
}
```

Try yourself 3: Write a C program that counts the number of vowels in an input string.