Problem : Write a C program to declare, initialize, input elements in array and print array. How to input and display elements in an array using for loop in C programming. C program to input and print array elements using loop.

Source code :

```c
#include <stdio.h>
#define MAX_SIZE 1000
int main()
{ int arr[MAX_SIZE];
    int i, N;
    printf(" size of array: ");
    scanf("%d", &N);
    printf(" %d  : ", N);
    for(i=0; i<N; i++)
    {
        scanf("%d",&arr[i]);
    }
    printf("\nElements in array are: ");
    for(i=0; i<N; i++)
    {
        printf("%d, ", arr[i]);
    }
 return 0:
}
```

Output :

```
 size of array: 10
 10  : 1
1
2
3
4
5
6
7
8
9

Elements in array are: 1, 1, 2, 3, 4, 5, 6, 7, 8, 9,
Process returned 0 (0x0)   execution time : 13.367 s
Press any key to continue.
```

Problem : Write a C program to read elements in an array and find the sum of array elements. C program to find sum of elements of the array. How to add elements of an array using for loop in C programming. Logic to find sum of array elements in C programming.

Source Code : #include <stdio.h>

#define MAX_SIZE 100

int main()

{

   int arr[MAX_SIZE];

   int i, n, sum=0;

   printf("Enter size of the array: ");

   scanf("%d", &n);

   printf("Enter %d elements in the array: ", n);

   for(i=0; i<n; i++)

   {

```c
        scanf("%d", &arr[i]);

    }

    for(i=0; i<n; i++)

    {

        sum = sum + arr[i];

    }


    printf("Sum of all elements of array = %d", sum);


    return 0;

}
```

Output:

```
Enter size of the array: 10
Enter 10 elements in the array : 10 20 30 40 50 60 70 80 90 100
Sum of all elements of array = 550
```

Problem: Write a C program to find largest and second largest element in an array. How to find second largest element in array in C programming language. Logic to find second largest element in array in C program.

Source code : #include <stdio.h>

```c
int main() {
    int n, i;
    int arr[100];
    int first, second;


    printf("Enter number of elements: ");
    scanf("%d", &n);
```

```c
    printf("Enter %d elements: ", n);
    for (i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }
    if (arr[0] > arr[1]) {
        first = arr[0];
        second = arr[1];
    } else {
        first = arr[1];
        second = arr[0];
    }
    for (i = 2; i < n; i++) {
        if (arr[i] > first) {
            second = first;
            first = arr[i];
        } else if (arr[i] > second && arr[i] < first) {
            second = arr[i];
        }
    }
    printf("Largest element = %d\n", first);
    printf("Second largest element = %d\n", second);

    return 0;
}
```

Output:

```
Enter size of the array (1-1000): 10
Enter elements in the array: -7 2 3 8 6 6 75 38 3 2
First largest = 75
Second largest = 38
```

Problem : Write a C program to input elements in array and copy all elements of first array into second array. How to copy array elements to another array in C programming. Logic to copy array elements in C program using loop.

Source code: #include <stdio.h>

int main()

{

   int arr1[100], arr2[100];

   int n, i;

   printf("Enter size of array: ");

   scanf("%d", &n);

   printf("Enter %d elements in the array:\n", n);

   for(i = 0; i < n; i++)

   {

      printf("Element %d: ", i + 1);

      scanf("%d", &arr1[i]);

   }

   for(i = 0; i < n; i++)

   {

      arr2[i] = arr1[i];

   }

   printf("\nElements of first array:\n");

```c
    for(i = 0; i < n; i++)

    {

        printf("%d ", arr1[i]);

    }

    printf("\n\nElements of second array (after copy):\n");

    for(i = 0; i < n; i++)

    {

        printf("%d ", arr2[i]);

    }


    return 0;

}
```

Output:

```
Enter the size of the array : 10
Enter elements of source array : 10 20 30 40 50 60 70 80 90 100

Elements of source array are : 10        20        30        40        50
Elements of dest array are : 10        20        30        40        50
```