C_56 ⇒ Two Dimensional Arrays

Array Program 1

*Program to print matrix and calculate Sum:

R1			R2		
10	-1	3	0	2	5

	0	1	2
0	10	-1	3
1	0	2	5

```
Void main()
{
  int a[2][3], i, j, sum = 0;
  printf("Enter 2×3 matrix elements:\n");
  for(i=0; i<2; i++)
  {
    for(j=0; j<2; j++)
    {
      scanf("%d\t", &a[i][j]);
    }
  }
  printf("Matrix 2×3:\n");
  for(i=0; i<2; i++)
  {
    for(j=0; j<2; j++)
    {
      printf("%d\t", a[i][j]);
      sum = sum + a[i][j];
    }
    printf("\n");
  }
  printf("%d", sum);
  getch();
}
```

\t → one tab space

o/p

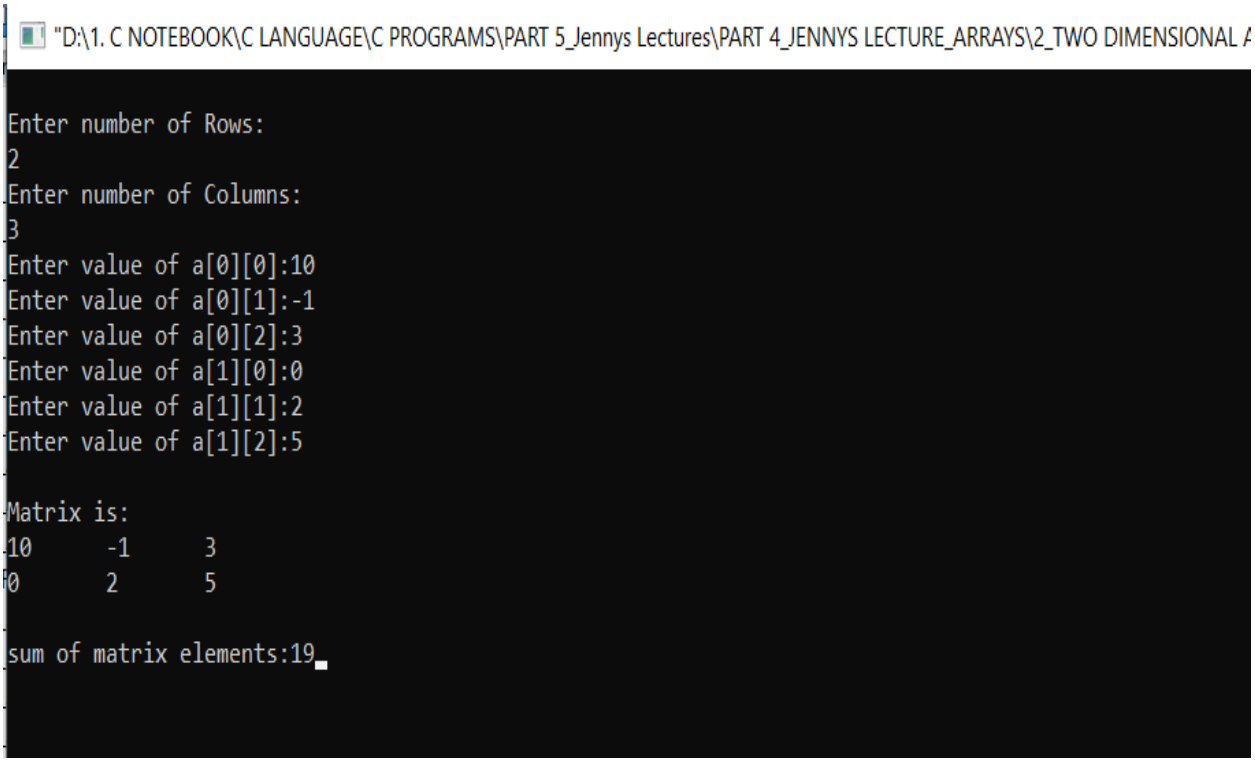
```
10  -1  3
0   2   5
Sum = 19
```

CODE 1:

```c
#include <stdio.h>
#include <stdlib.h>
#define N 100
/** 1 - 2D ARRAY PROGRAM **/
/** READ A MATRIX AND PRINT SUM OF ALL ROWS AND COLUMNS **/
int main()
{
    int a[N][N],i,j,m,n,sum=0;
    printf("\nEnter number of Rows:\n");
     scanf("%d",&m);
     printf("Enter number of Columns:\n");
     scanf("%d",&n);
     for(i=0;i<m;i++)
     {
      for(j=0;j<n;j++)
      {
       printf("Enter value of a[%d][%d]:",i,j);
       scanf("%d",&a[i][j]);
      }
     }

    printf("\nMatrix is:\n");
    for(i=0;i<m;i++)
    {
     for(j=0;j<n;j++)
     {
      printf("%d\t",a[i][j]);
     }
     printf("\n");
    }

    for(i=0;i<m;i++)
    {
     for(j=0;j<n;j++)
     {
      sum=sum+a[i][j];
     }
    }
    printf("\nsum of matrix elements:%d",sum);
    getch();
}
```


"D:\1. C NOTEBOOK\C LANGUAGE\C PROGRAMS\PART 5_Jennys Lectures\PART 4_JENNYS LECTURE_ARRAYS\2_TWO DIMENSIONAL A
Enter number of Rows:
2
Enter number of Columns:
3
Enter value of a[0][0]:10
Enter value of a[0][1]:-1
Enter value of a[0][2]:3
Enter value of a[1][0]:0
Enter value of a[1][1]:2
Enter value of a[1][2]:5
Matrix is:
10 -1 3
0 2 5
sum of matrix elements:19