Practical No.06

Aim: Programs based on Two-Dimensional Array

1. C Program to Calculate Sum of all Elements in Array

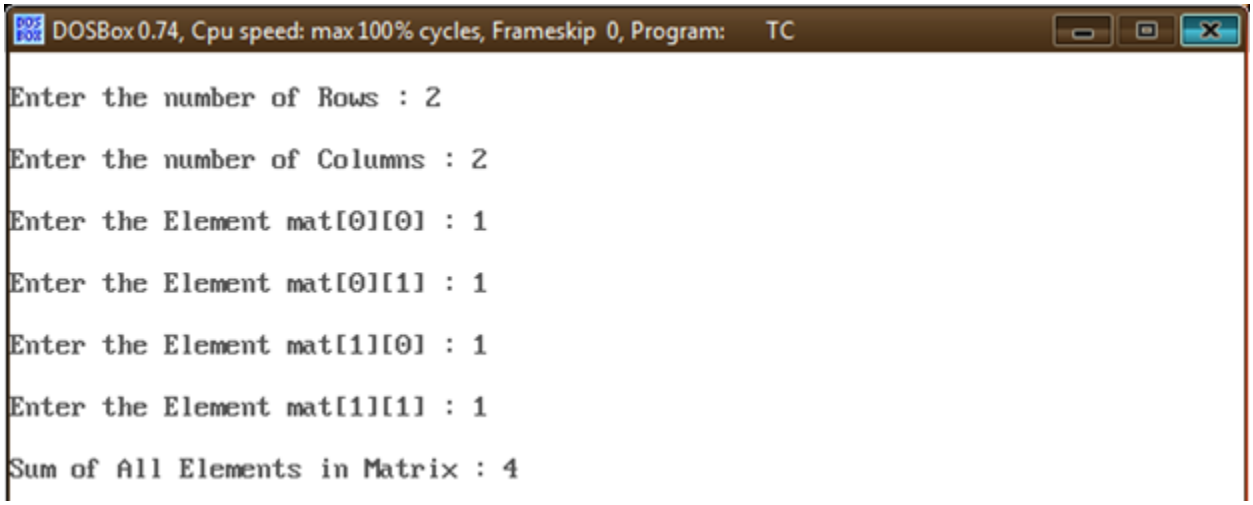
Program:

```
#include<stdio.h>
#include<conio.h>

void main()

{
    int i, j, mat[10][10], row, col;
    int sum = 0;

    clrscr();

    printf("\nEnter the number of Rows : ");
    scanf("%d", &row);

    printf("\nEnter the number of Columns : ");
    scanf("%d", &col);

//Accept the Elements in Matrix

    for (i = 0; i < row; i++)
        {
            for (j = 0; j < col; j++)
                {
                    printf("\nEnter the Element mat[%d][%d] : ", i, j);
                    scanf("%d", &mat[i][j]);
                }
        }

//Addition of all Elements

    for (i = 0; i < row; i++)
        {
            for (j = 0; j < col; j++)
                {
                    sum = sum + mat[i][j];
                }
        }

//Print out the Result

    printf("\nSum of All Elements in Matrix : %d", sum);


getch();

}
```

Output:

```
Enter the number of Rows : 2
Enter the number of Columns : 2
```

```
Enter the Element mat[0][0] : 1
Enter the Element mat[0][1] : 1
Enter the Element mat[1][0] : 1
Enter the Element mat[1][1] : 1

Sum of All Elements in Matrix : 4
```



2. C Program to Subtract Two Elements of Matrices

Program:

```
#include <stdio.h>
#include <conio.h>
void main()
{
  int m, n, c, d, first[10][10], second[10][10], difference[10][10];

  clrscr();

  printf("Enter the number of rows and columns of matrix\n");
  scanf("%d%d", &m, &n);
  printf("Enter the elements of first matrix\n");

  for (c = 0; c < m; c++)
    for (d = 0 ; d < n; d++)
      scanf("%d", &first[c][d]);

  printf("Enter the elements of second matrix\n");

  for (c = 0; c < m; c++)
    for (d = 0; d < n; d++)
        scanf("%d", &second[c][d]);

  for (c = 0; c < m; c++)
    for (d = 0; d < n; d++)
      difference[c][d] = first[c][d] - second[c][d];

  printf("difference of entered matrices:-\n");

  for (c = 0; c < m; c++)
  {
    for (d = 0; d < n; d++)
      printf("%d\t",difference[c][d]);
```

```
      printf("\n");
    }

    getch() ;
}
```

Output:

```
Enter the number of rows and columns of matrix
2 2
Enter the elements of first matrix
4 3
2 1
Enter the elements of second matrix
1 2
1 1
difference of entered matrices:-
3     1
1     0
```