

Aim:

Write a program to find the addition of two matrices.

Note :

- Do use the **printf()** function with a **newline** character (\n).
- If the sizes of two matrices are not equal then print **Addition is not possible** and stop the process.

Source Code:

Program511.c

```
#include<stdio.h>
int main()
{
    int a[100][100],b[100][100],sum[100][100],i,j,r1,r2,c1,c2;
    printf("Enter the row & column sizes of matrix-1 : ");
    scanf("%d%d",&r1,&c1);
    printf("Enter matrix-1 %d elements : ",r1*c1);
    for(i=0;i<r1;i++)
        for(j=0;j<c1;j++)
            scanf("%d",&a[i][j]);
    printf("Enter the row & column sizes of matrix-2 : ");
    scanf("%d%d",&r2,&c2);
    printf("Enter matrix-2 %d elements : ",r2*c2);
    for(i=0;i<r2;i++)
        for(j=0;j<c2;j++)
            scanf("%d",&b[i][j]);
    if(r1==r2&&c1==c2)
    {
        for(i=0; i<r1;i++)
            for(j=0; j<c1;j++)
                sum[i][j] = a[i][j]+b[i][j];
        printf("The given matrix-1 is\n");
        for(i=0;i<r1;i++)
        {
            for(j=0;j<c1;j++)
            {
                printf("%d ",a[i][j]);
            }
            printf("\n");
        }
        printf("The given matrix-2 is\n");
        for(i=0;i<r1;i++)
        {
            for(j=0;j<c2;j++)
            {
                printf("%d ",b[i][j]);
            }
            printf("\n");
        }
        printf("Addition of two matrices is\n");
        for(i=0;i<r1;i++)
```

```

        {
            for(j=0;j<c1;j++)
            {
                printf("%d ",sum[i][j]);
            }
            printf("\n");
        }
    }
    else
    {
        printf("The given matrix-1 is\n");
        for(i=0;i<r1;i++)
        {
            for(j=0;j<c1;j++)
            {
                printf("%d ",a[i][j]);
            }
            printf("\n");
        }
        printf("The given matrix-2 is\n");
        for(i=0;i<r2;i++)
        {
            for(j=0;j<c2;j++)
            {
                printf("%d ",b[i][j]);
            }
            printf("\n");
        }
        printf("Addition is not possible\n");
    }
}

```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Size of mat1: 2 2
mat1: 11 22 33 44
Size of mat2: 2 2
mat2: 22 33 44 55
mat1
11 22
33 44
mat2
22 33
44 55
Addition
33 55
77 99

Test Case - 2
User Output

Size of mat1: 2 3
mat1: 1 2 3 4 5 6
Size of mat2: 3 2
mat2: 1 3 4 5 6 7
mat1
1 2 3
4 5 6
mat2
1 3
4 5
6 7
Addition is not possible