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

```c
#include<stdio.h>
int main()
{
    int a[10][10],b[10][10],i,j,r1,c1,r2,c2,c[10][10];
    printf("Size of mat1: ");
    scanf("%d%d",&r1,&c1);
    printf("mat1: ");
    for(i=0;i<r1;i++)
    {
        for(j=0;j<c1;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    printf("Size of mat2: ");
    scanf("%d%d",&r2,&c2);
    printf("mat2: ");
    for(i=0;i<r2;i++)
    {
        for(j=0;j<c2;j++)
        {
            scanf("%d",&b[i][j]);
        }
    }
    printf("mat1\n");
    for(i=0;i<r1;i++)
    {
        for(j=0;j<c1;j++)
        {
            printf("%d ",a[i][j]);
        }
        printf("\n");
    }
    printf("mat2\n");
    for(i=0;i<r2;i++)
    {
        for(j=0;j<c2;j++)
        {
            printf("%d ",b[i][j]);
        }
        printf("\n");
```

```
    }
    if(r1==r2&c1==c2)
    {
    for(i=0;i<r1;i++)
    {
        for(j=0;j<c1;j++)
        {
            c[i][j]=a[i][j]+b[i][j];
        }
    }
    printf("Addition\n");
    for(i=0;i<r1;i++)
    {
        for(j=0;j<c1;j++)
        {
            printf("%d ",c[i][j]);
        }
        printf("\n");
    }
    }
    else
    {
        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
```