S.No: 23	Exp. Name: ***Write a C program to find the Addition of Two matrices by checking compatibility***	Date:2023-01-07

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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 r1,c1,r2,c2,a[100][100],b[100][100],sum[100][100],i,j;
   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]);
   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");
 }
   if(r1==r2&&c1==c2)
   {
      printf("Addition of two matrices is\n");
      for(i=0;i<r1;++i)
      {
         for(j=0;j<c1;++j)
```

```
        {
           sum[i][j]=a[i][j]+b[i][j];
           printf("%d ",sum[i][j]);
   }
        printf("\n");
  }
 }
   else
   {
      printf("Addition is not possible\n");
 }
   return 0;
}
```


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