S.No: 14	Exp. Name: ***Program - Addition of two matrices***	Date:2023-04-03

Aim:

The below sample code finds the **addition** of two matrices.

In the **main()** function read a two two-dimensional array of elements and then find the **addition** of two matrices.

The **logic** is
First checks the **row sizes** and **column sizes** of two two-dimensional arrays are equal or not.
If the sizes are not equal then print "Addition is not possible" and stop the process.
If the sizes are equal then use **two for loops** to add each corresponding elements of two matrices and finally print the result.
Fill in the missing code so that it produces the desired output.

Source Code:

matrix.c

```
#include<stdio.h>
void main()
{
   int i,j,m,n,p,q;
   int a[10][10],b[10][10],c[10][10];
   printf("Enter the row & column sizes of matrix-1 : ");
   scanf("%d %d",&m,&n);
   printf("Enter matrix-1 %d elements : ",m*n);
   for(i=0;i<m;i++)
   {
   for(j=0;j<n;j++)
   {
   scanf("%d",&a[i][j]);
}
}
   printf("Enter the row & column sizes of matrix-2 : ");
   scanf("%d %d",&p,&q);
   printf("Enter matrix-2 %d elements : ",p*q);
   for(i=0;i<p;i++)
   {
   for(j=0;j<q;j++)
   {
   scanf("%d",&b[i][j]);
}
}
   printf("The given matrix-1 is\n");
   for(i=0;i<m;i++)
   {
   for(j=0;j<n;j++)
   {
   printf("%d ",a[i][j]);
}
   printf("\n");
}
   printf("The given matrix-2 is\n");
   for(i=0;i<p;i++)
```

```
    {
    for(j=0;j<q;j++)
    {
    printf("%d ",b[i][j]);
}
    printf("\n");
}
    if(m==p&&n==q)
    {
    for(i=0;i<m;i++)
    {
    for(j=0;j<n;j++)
    {
    c[i][j]=a[i][j]+b[i][j];
}
}
    printf("Addition of two matrices is\n");
    for(i=0;i<m;i++)
    {
    for(j=0;j<n;j++)
    {
    printf("%d ",c[i][j]);
}
    printf("\n");
}
}
    else
    {
    printf("Addition is not possibe\n");
}
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter the row & column sizes of matrix-1 : 2 2
Enter matrix-1 4 elements : 1 2 3 4
Enter the row & column sizes of matrix-2 : 2 2
Enter matrix-2 4 elements : 4 5 6 7
The given matrix-1 is
1 2
3 4
The given matrix-2 is
4 5
6 7
Addition of two matrices is
5 7
9 11

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Srinivasa Ramanujan Institute of Technology