

4) #include <stdio.h>

int main() {

int m, n, p, q;

printf("Enter rows and columns of Matrix A (m n):");

scanf("%d %d", &m, &n);

int A[m][n];

printf("Enter elements of matrix A: \n");

for (int i=0; i<m; i++) {

for (int j=0; j<n; j++) {

printf("A[%d][%d]: ", i+1, j+1);

scanf("%d", &A[i][j]);

}

}

printf("\nEnter rows and columns of matrix B: \n");

scanf("%d %d", &p, &q);

int B[p][q];

printf("B [%d][%d]: ", i+1, j+1);

scanf("%d", &B[i][j]);

if (n != p) {

printf("\nMatrix multiplication not possible! \n");

printf("columns of A (%d) != Rows of B (%d)\n\n", n, p);

return 0;

printf("columns of A (%d) != Rows of B (%d)\n\n", n, p);

return 0;

int C[m][q];

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```

for (int i=0; i<m; i++) {
    for (int j=0; j>q; j++) {
        C[i][j]=0
    }
}
for (int k=0; k<n; k++) {
    C[i][j] += A[i][k] * B[k][j];
}

```

y

```

printf ("\\n Matrix A (%d x %d) : \n", m, n);
for (int i=0, i<m, i++) {
    for (int j=0, j<q, j++) {
        printf ("%d ", C[i][j]);
    }
    printf ("\n");
}
return 0;

```

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main.c

```
1 #include <stdio.h>
2 int main() {
3     int m, n, p, q;
4     printf("enter rows and columns of matrix A (m n): ");
5     scanf("%d %d", &m, &n);
6     int A[m][n];
7     printf("enter elements of matrix A:\n");
8     for (int i = 0; i < m; i++) {
9         for (int j = 0; j < n; j++) {
10            printf("A[%d][%d]: ", i + 1, j + 1);
11            scanf("%d", &A[i][j]);
12        }
13    }
14    printf("\n enter rows and columns of matrix B: ");
15    scanf("%d %d", &p, &q);
16    int B[p][q];
17    printf("enter elements of matrix B:\n");
18    for (int i = 0; i < p; i++)
19    for (int j = 0; j < q; j++){
20        printf("B[%d][%d]: ", i + 1, j + 1);
21        scanf("%d", &B[i][j]);
22    }
23    if (n != p){
24        printf("\nMatrix multiplication not possible!\n");
25        printf("columns of A (%d) != Rows of B (%d)\n", n, p);
26        return 0;
27    }
28    int C[m][q];
```

Output

enter rows and columns of matrix A (m n): 2 2
enter elements of matrix A:
A[1][1]:7
A[1][2]:0
A[2][1]:3
A[2][2]:1

enter rows and columns of matrix B:
9
0
enter elements of matrix B:

Matrix multiplication not possible!
columns of A (2) != Rows of B (9)

== Code Execution Successful ==

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main.c

```
17     printf("enter elements of matrix B:\n");
18     for (int i = 0; i < p; i++){
19         for (int j = 0; j < q; j++){
20             printf("B[%d][%d]: ", i + 1, j + 1);
21             scanf("%d", &B[i][j]);
22         }
23         if (n != p){
24             printf("\nMatrix multiplication not possible!\n");
25             printf("columns of A (%d) != Rows of B (%d)\n", n, p);
26             return 0;
27         }
28         int C[m][q];
29         for (int i = 0; i < m; i++){
30             for (int j = 0; j < q; j++){
31                 C[i][j] = 0;
32                 for (int k = 0; k < n; k++){
33                     C[i][j] += A[i][k] * B[k][j];
34                 }
35                 printf("\nMatrix A (%d x %d) : \n", m, n);
36                 for (int i = 0; i < m; i++){
37                     for (int j = 0; j < q; j++)
38                         printf("%5d", C[i][j]);
39                     printf("\n");
40                 }
41             }
42 }
```

Output

```
enter rows and columns of matrix A (m n): 2 2
enter elements of matrix A:
A[1][1]:7
A[1][2]:0
A[2][1]:3
A[2][2]:1

enter rows and columns of matrix B:
9
0
enter elements of matrix B:

Matrix multiplication not possible!
columns of A (2) != Rows of B (9)

== Code Execution Successful ==
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