#include <stdio.h>

int main() {

int m, n, p, q;

int i, j, k;

// Input matrix sizes

printf("Enter rows and columns of first matrix: ");

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

printf("Enter rows and columns of second matrix: ");

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

// Check matrix multiplication condition

if (n != p) {

printf("Matrix multiplication not possible! (Columns of A != Rows of B)\n");

return 0;

}

int A[m][n], B[p][q], C[m][q];

// Input elements of first matrix

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

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

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

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

}

// Input elements of second matrix

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

for (i = 0; i < p; i++) {

for (j = 0; j < q; j++) {

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

}

}

// Initialize result matrix with 0

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

for (j = 0; j < q; j++) {

C[i][j] = 0;

}

}

// Matrix multiplication

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

for (j = 0; j < q; j++) {

for (k = 0; k < n; k++) {

C[i][j] += A[i][k] \* B[k][j];

}

}

}

// Display result

printf("Resultant matrix after multiplication:\n");

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

for (j = 0; j < q; j++) {

printf("%d\t", C[i][j]);

}

printf("\n");

}

return 0;

}

