**package** multiplymatrix;

**import** java.util.\*;

**public** **class** MultiplyMatrix {

**public** **static** **void** main(String[] args) {

Scanner input = **new** Scanner(System.***in***);

System.***out***.print("Enter the number of rows of the first matrix: ");

**int** m1 = input.nextInt();

System.***out***.print("Enter the number of columns of the first matrix: ");

**int** n1 = input.nextInt();

**int**[][] mat1 = **new** **int**[m1][n1];

System.***out***.println("Enter the elements of the first matrix: ");

**for** (**int** i = 0; i < m1; i++) {

**for** (**int** j = 0; j < n1; j++) {

mat1[i][j] = input.nextInt();

}

}

System.***out***.print("Enter the number of rows of the second matrix: ");

**int** m2 = input.nextInt();

System.***out***.print("Enter the number of columns of the second matrix: ");

**int** n2 = input.nextInt();

**int**[][] mat2 = **new** **int**[m2][n2];

System.***out***.println("Enter the elements of the second matrix: ");

**for** (**int** i = 0; i < m2; i++) {

**for** (**int** j = 0; j < n2; j++) {

mat2[i][j] = input.nextInt();

}

}

**if** (n1 != m2) {

System.***out***.println("Error: Number of columns in first matrix must be equal to number of rows in second matrix.");

**return**;

}

**int**[][] product = **new** **int**[m1][n2];

**for** (**int** i = 0; i < m1; i++) {

**for** (**int** j = 0; j < n2; j++) {

**for** (**int** k = 0; k < n1; k++) {

product[i][j] += mat1[i][k] \* mat2[k][j];

}

}

}

System.***out***.println("The product of the two matrices is:");

**for** (**int** i = 0; i < m1; i++) {

**for** (**int** j = 0; j < n2; j++) {

System.***out***.print(product[i][j] + " ");

}

System.***out***.println();

}

}

}

