#include <stdio.h>

int main() {

int rows, cols;

// Get the number of rows and columns from the user

printf("Enter the number of rows: ");

scanf("%d", &rows);

printf("Enter the number of columns: ");

scanf("%d", &cols);

// Declare the matrix

int matrix[rows][cols];

// Input the matrix elements

printf("Enter the matrix elements:\n");

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

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

printf("Enter element [%d][%d]: ", i, j);

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

}

}

// Display the original matrix

printf("\nOriginal Matrix:\n");

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

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

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

}

printf("\n");

}

// Transpose the matrix

int transpose[cols][rows];

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

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

transpose[i][j] = matrix[j][i];

}

}

// Display the transposed matrix

printf("\nTransposed Matrix:\n");

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

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

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

}

printf("\n");

}

return 0;

}