#include<stdio.h>

#include<stdlib.h>

int main()

{

int i, j, row, col, count = 0;

printf("Please Enter Number of rows and columns: ");

scanf("%d %d", &i, &j);

if(i!=j)

{

printf("Rows not equal to columns. Therefore Non-Symmetric Matrix.");

exit(0);

}

//Initialize 2d-array of size i,j.

int a[i][j], b[i][j];

printf("\nEnter the Matrix Elements \n");

for(row = 0; row < i; row++)

{

for(col = 0;col < j;col++)

{

scanf("%d", &a[row][col]);

}

}

//Transpose of matrix

for(row = 0; row < i; row++)

{

for(col = 0;col < j; col++)

{

b[col][row] = a[row][col];

}

}

//Check if matrix a equals to matrix b or not.

for(row = 0; row < i; row++)

{

for(col = 0; col < j; col++)

{

if(a[row][col] != b[row][col])

{

count++;

break;

}

}

}

if(count == 0)

{

printf("\nThe given Matrix is a Symmetric Matrix ");

}

else

{

printf("\nThe given Matrix is Not a Symmetric Matrix ");

}

return 0;

}