#include<stdio.h>

#include<stdlib.h>

int isSafe(int N,int M,int i,int j)

{

if(i < 0 || i >= N)

return 0;

if(j < 0 || j >= M)

return 0;

return 1;

}

void delIsland(int \*\*A,int N,int M,int i,int j)

{

if(isSafe(N,M,i,j) && A[i][j] == 1)

{

A[i][j] = 0;

delIsland(A, N , M , i-1, j-1);

delIsland(A, N, M, i-1, j);

delIsland(A, N, M, i-1, j+1);

delIsland(A, N, M, i, j-1);

delIsland(A, N, M, i, j+1);

delIsland(A, N, M, i+1, j-1);

delIsland(A, N, M, i+1, j);

delIsland(A, N, M, i+1, j+1);

}

}

int TotalBridge(int \*\*A, int N, int M)

{

int count = 0 ;

int i,j;

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

{

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

if(A[i][j] == 1)

{

count++;

delIsland(A,N,M,i,j);

}

}

if(count == 0)

return 0;

return count;

}

int main()

{

int N,M;

int i,j;

printf("\nEnter the order of the islands : ");

scanf("%d %d", &N,&M);

int \*\*A = (int \*\*)malloc(N \* sizeof(int \*));

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

A[i] = (int \*)malloc(M \* sizeof(int));

printf("\nEnter the island matrix : ");

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

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

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

printf("\nTotal Number of islands : %d", TotalBridge(A,N,M));

return 0;

}

Output

