Special Matrix

SolvedBy : 128 (solvedby.php?pid=1047) Accuracy : 20.13

dp (tag-page.php?tag=dp&isCmp=0)

You are given a matrix having **N** rows and **M** columns. The special property of this matrix is that some of the cells of this matrix are **blocked**
i.e. they cannot be reached. Now you have to start from the cell **(1,1)** and reach the end **(N,M)** provided during the journey you can move horizontally **right** from the current cell or vertically **down** from the current cell.
Can you answer the **number of ways** you can traverse the matrix obeying the above constraints starting from **(1,1)** and ending at **(N,M)**.

Output your answer modulo **10^9+7**.

Input :
The first line contains **T**, the number of test cases. Then **T** test cases follow.
Each test case consists of two lines.
The first line contains three integers **N**,**M** and **K** denoting the number of rows, the number of columns and the number of blocked cells in the matrix respectively. The next line contains space

separated **2*K** integers denoting the positions of the blocked cells in the form **R1 C1 R2 C2 R3 C3…..RK CK**.

Output :
For each test case output the the **number of ways** modulo **10^9+7** in a new line.

Constraints :
1<=**T**<=100
1<=**N**<=1000
1<=**M**<=1000
1<=**K**<**N*M**
1<=**Ri**<=**N**
1<=**Ci**<=**M**
It is guaranteed that the cell (1,1) will never be blocked.

Example
Input
1
3 3 2
1 2 3 2
Output :
1

Explanation :
For the above test case there is only one path from (1,1) to(3,3) which is
(1,1)->(2,1)->(2,2)->(2,3)->(3,3)
For More Examples Use Expected Output

Contributor: Arnab Deb

New to competitive programming? Please see How to Begin? (http://www.geeksforgeeks.org/how-to-begin-with-competitive-programming/)and How to Pick a Category? (http://www.practice.geeksforgeeks.org/pickACategory.php)

C(gcc 4.8.4) | C++(gcc 4.8.4) | Java(1.8) | Python(2.7)

Theme Light ▼ Set Default Code (edit-profile.php)

```
1  #include <stdio.h>
2
3  int main() {
4      //code
5      return 0;
6  }
```

Result:

Submit | Test | Expected Output | Save Code

Editorial (editorial.php?pid=1047)

ALL SUBMISSIONS OF THIS PROBLEM (submissions.php?func=1&pid=1047&isAll=1&isProPage=1&offset=0)

MY SUBMISSIONS OF THIS PROBLEM (submissions.php?func=1&pid=1047&isAll=0&isProPage=1&offset=0)

Need help with your code? Please use code.geeksforgeeks.org (http://code.geeksforgeeks.org)**, generate link and share the link here.**

4 Comments **GeeksforGeeks Practice** **Shubhanshu Soni**

Recommend **Share** **Sort by Best**

Join the discussion…

Soumyarup Banik • 6 days ago
http://code.geeksforgeeks.org/...
what is the problem in case of recursion?
1 • Reply • Share ›

Heramb • a month ago
http://code.geeksforgeeks.org/...
Sample test is showing correct o/p,but showing TLE when I submit.
• Reply • Share ›

Schizophrenic • 2 months ago
I solved it in O(n^2). Still I am getting a TLE. Please help.
http://code.geeksforgeeks.org/...
• Reply • Share ›

Kamlesh Meena ➚ Schizophrenic • 2 months ago
u can refer my code....

```
#include <iostream>
#include <cmath>
using namespace std;

int numberOfPaths(int ar[1000][1000],int m, int n)
{
```

```
int count[m][n];
int flag=true;

for (int i = 0; i < m; i++){
if(ar[i][0]==0||flag==false){
count[i][0]=0;flag=false;}
else if(flag)count[i][0] = 1;

}
flag=true;
for (int j = 0; j < n; j++){
```

see more

• Reply • Share ›

Leaderboard (ranking.php)

1	张昆玮 (user-profile.php?user=张昆玮)	1518
2	vishu5090 (user-profile.php?user=vishu5090)	1289
3	kulli_d_coder (user-profile.php?user=kulli_d_coder)	1161
4	sanjaykumar9 (user-profile.php?user=sanjaykumar9)	1136
5	Aditya Goyal (user-profile.php?user=Aditya Goyal)	1124
1261	shubhpy (user-profile.php?user=shubhpy)	101

More>> (ranking.php)

Company Tags (tags.php)

- Amazon (tag-page.php?tag=Amazon&isCmp=1)
- Microsoft (tag-page.php?tag=Microsoft&isCmp=1)
- Adobe (tag-page.php?tag=Adobe&isCmp=1)
- Snapdeal (tag-page.php?tag=Snapdeal&isCmp=1)
- Flipkart (tag-page.php?tag=Flipkart&isCmp=1)

More>> (tags.php)

Submissions (submissions.php?

pid=-1&isAll=1&isProPage=0&offset=0)

All Submissions (submissions.php?pid=-1&isAll=1&isProPage=0&offset=0)

My Submissions (submissions.php?pid=-1&isAll=0&isProPage=0&offset=0)

Problem Tags (probtags.php)

maths (tag-page.php?tag=maths&isCmp=0)

array (tag-page.php?tag=array&isCmp=0)

string (tag-page.php?tag=string&isCmp=0)

dp (tag-page.php?tag=dp&isCmp=0)

linked list (tag-page.php?tag=linked list&isCmp=0)

More>> (probtags.php)

Report A Bug (contribute.php)

Recent Comments (recentComments.php)

Trending Problems

Sum of divisors (problem-page.php?pid=1421)

LCS with permutations (problem-page.php?pid=1422)

Common Divisors (problem-page.php?pid=1423)

Interleaved Strings (problem-page.php?pid=700353)

Prime Factors (problem-page.php?pid=1397)