Sample Input

```
5
6 2 8 7 1
0 5 2 10 20
0
```

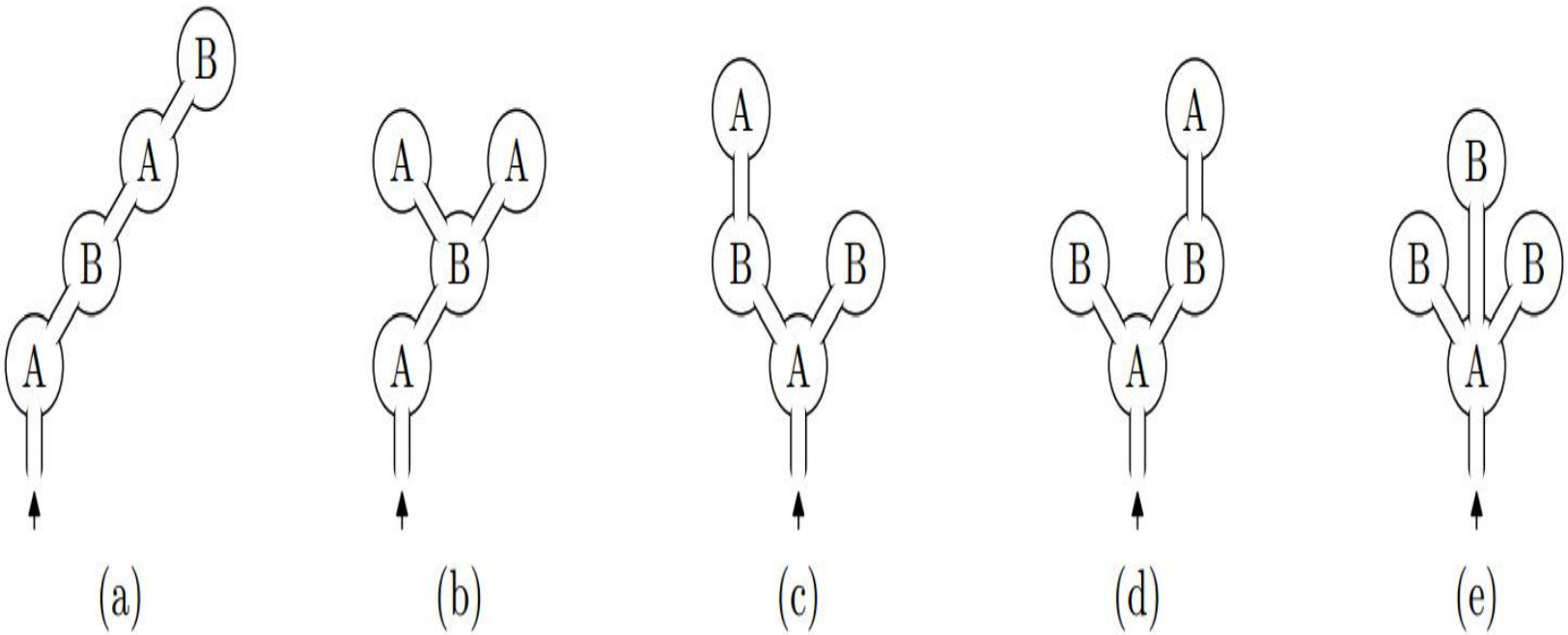
Sample Output

```
10
```

Hint

In the sample, there is two ways to achieve Xiaoji's goal.
[6 2 8 7 1] -> [8 8 7 1] -> [8 8 8] will cost 5 + 5 = 10.
[6 2 8 7 1] -> [24] will cost 20.

- http://codeforces.com/gym/101334（e）



exploring.in	exploring.out
ABABABA	5
AB	0

总结一下

划分

决策？

有 n 个产品，编号为 1~n。要在 m 个机器人的手中生产完成。其中，第 i 个产品在第 j 个机器人手中的生产时间给出 。要把这些产品按照编号从 小到大生产.求生 产完所有产品的最短时间是多少。其中 $n<=5*10^5$，$m<=5$。

Outline?

区间
数轴（背包）

数位
集合(装压,插头)

树，dag，AC自动机、后缀树上

套套套！！！

- 1、背包模型
  包括0-1背包、无限背包、有限背包、有价值背包等！
  2、最长非降子序列模型
  渡河问题、合唱队型等
  3、最大子段和模型
  K大子段和、最佳游览，最大子矩阵和等。
  4、LCS模型
  回文字串、多串的LCS等
  5、括号序列模型
  cf,（母函数、默慈金数等
  6、递推模型

  7、线段覆盖问题
  snoi 2012！

  8、连续段划分模型
  即要求把数列划分成k个连续段，使每段和的最大值最小。
  9、游戏模型
  这类题的阶段（一般是时间）和决策（一般就是游戏目标）很清楚，因此比较容易想到。改版：免费馅饼（NOI98）
  10、括号序列

上体育课的时候，小蛮的老师经常带着同学们一起做游戏。这次，老师带着同学们一起做传球游戏。

游戏规则是这样的：n个同学站成一个圆圈，其中的一个同学手里拿着一个球，当老师吹哨子时开始传球，每个同学可以把球传给自己左右的两个同学中的一个（左右任意），当老师再次吹哨子时，传球停止，此时，拿着球没传出去的那个同学就是败者，要给大家表演一个节目。

聪明的小蛮提出一个有趣的问题：有多少种不同的传球方法可以使得从小蛮手里开始传的球，传了m次以后，又回到小蛮手里。两种传球的方法被视作不同的方法，当且仅当这两种方法中，接到球的同学按接球顺序组成的序列是不同的。比如有3个同学1号、2号、3号，并假设小蛮为1号，球传了3次回到小蛮手里的方式有1->2->3->1和1->3->2->1，共2种。

n，m（3<=n<=30，1<=m<=30）。

输入

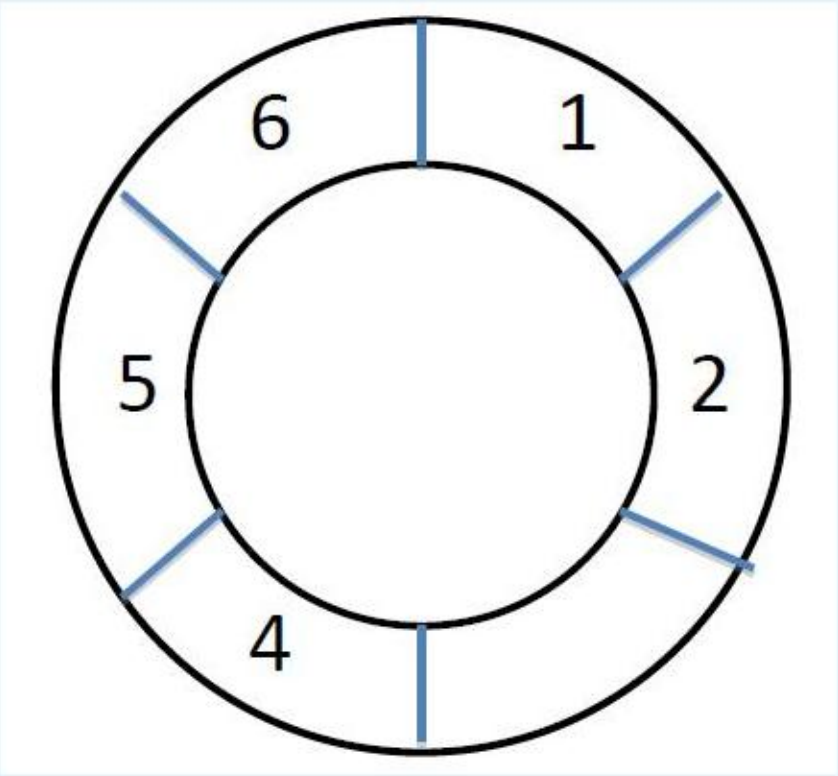
```
3 3
```

输出

```
2
```

Hdu 4576

Michael has a telecontrol robot. One day he put the robot on a loop with n cells. The cells are numbered from 1 to n clockwise.



At first the robot is in cell 1. Then Michael uses a remote control to send m commands to the robot. A command will make the robot walk some distance. Unfortunately the direction part on the remote control is broken, so for every command the robot will chose a direction(clockwise or anticlockwise) randomly with equal possibility, and then walk w cells forward.
Michael wants to know the possibility of the robot stopping in the cell that cell number >= l and <= r after m commands.

Input

There are multiple test cases.
Each test case contains several lines.
The first line contains four integers: above mentioned n($1 \le n \le 200$) ,m($0 \le m \le 1,000,000$),l,r($1 \le l \le r \le n$).
Then m lines follow, each representing a command. A command is a integer w($1 \le w \le 100$) representing the cell length the robot will walk for this command.
The input end with n=0,m=0,l=0,r=0. You should not process this test case.

Output

For each test case in the input, you should output a line with the expected possibility. Output should be round to 4 digits after decimal points.

Sample Input

```
3 1 1 2
1
5 2 4 4
1
2
0 0 0 0
```

Sample Output

```
0.5000
0.2500
```

Source

2013ACM-ICPC杭州赛区全国邀请赛

1171: Furu

时间限制: 1

提交

[提交][状态][

题目描述

Furude_Rika decided to paint a wall.The wall consists of n*m tiles,that are arranged in an n*m table, and each tile is a 1*1 square.At the beginning all the tiles are not painted.
Furude_Rika wants to paint the wall that in each row and in each column the number of printed tile is 0,1 or 2.She wants to know how many different ways she can paint her wall.
As the answer will be too big,mod it by 14020130063.

输入

Only two intergers n,m(n<=100,m<=100).

输出

Output an interger,the answer to the problem.

样例输入

```
1 3
```

样例输出

```
7
```

提示

For every tile you can choose whether to paint it or not,the total way of sample is 2*2*2=8.

but if we paint all the tiles,the number of painted tiles in the 1 row is 3.

so the final answer is 8-1=7.

一个机器人，一张图上来回走
每次从一个点等概率随机到达下一个点

问最终到达某个点的概率？

- 有一层高度为n(<=4000)的楼，每层楼可以建一个乒乓球室或者一个台球室，每层楼都有想玩这两种球的人，他们会到最近的台球室或者乒乓球室，问所有人的移动距离的最小值之和

Problem Description

Little Ruins is a studious boy, but in rest time, he will play some little game.

Today he found a game of eliminate: there is $N \times M$ tiles which only contains '#' and '*', you have two patterns to eliminate tiles:

:.

and

.:

Each step you can use a pattern and eliminate tiles **on the bottom two lines**. After each step,the tiles above eliminated tiles will fall down.

Your goal is to eliminate all '*' tiles, please calculate the **minimum** steps.

Input

First line contains an integer T, which indicates the number of test cases.

Every test case begins with two integers N and M, which indicates the size of tiles.

In the following N lines, every line contains M characters means the type of tiles.

Limits
$1 \leq T \leq 50$.
$1 \leq N \leq 2000$
$2 \leq M \leq 2000$.
For 80% of the use cases, $1 \leq N, M \leq 100$ holds.

Output

For every test case, you should output **'Case #x: y'**, where **x** indicates the case number and counts from **1** and **y** is the result.

Sample Input

```
1
3 2
#*
*#
##
```

Sample Output

1167: Furude_Rika and g

时间限制: 1 Sec 内存限制: 128 MB
提交: 21 解决: 12
[提交][状态][讨论版] [Edit] [TestData]

题目描述

Furude_Rika is so boring so she plays a game with herself.
She has a matrix consisting m rows and n columns and all of its element are "1"s.
In each second she can choose one element with equal probility.
if it is "1",she will change it to "0",otherwise she ignore it.
If there is at least one "0" on each row and at least one "0" on each column,the game ends.
Furude_Rika wants to calculate the expected time needed to finish this game.
As she is only a little girl,can you help her?

输入

The first line contains an integer T, indicates the number of test case. (T<=15)

Next T lines contains two integers m and n,indicates the number of rows and the number of lines.(m<=2000,n<=2000)

输出

For each test case, output one line, the expected time needed to finish this game.

The answer is round to three digit.

样例输入

```
3
1 1
1 2
2 2
```

样例输出

```
1.000
3.000
3.667
```

提示

for m=1,n=2.

the expect time is:1*0+2*1/2+3*1/4+4*1/8+5*1/16+.....=3.000

Islands and Bridges

Input file: `islands.in`
Time limit: `5 seconds.`

Given a map of islands and bridges that connect these islands, a Hamilton path, as we all know, is a path along the bridges such that it visits each island exactly once. On our map, there is also a positive integer value associated with each island. We call a Hamilton path the best triangular Hamilton path if it maximizes the value described below.

Suppose there are n islands. The value of a Hamilton path $C_1C_2\ldots C_n$ is calculated as the sum of three parts. Let V_i be the value for the island C_i. As the first part, we sum over all the V_i values for each island in the path. For the second part, for each edge $C_i\ C_{i+1}$ in the path, we add the product $V_i * V_{i+1}$. And for the third part, whenever three consecutive islands $C_i\ C_{i+1}\ C_{i+2}$ in the path forms a triangle in the map, i.e. there is a bridge between C_i and C_{i+2}, we add the product $V_i * V_{i+1} * V_{i+2}$.

Most likely but not necessarily, the best triangular Hamilton path you are going to find contains many triangles. It is quite possible that there might be more than one best triangular Hamilton paths; your second task is to find the number of such paths.

Input:

The input file starts with a number q ($q <= 20$) on the first line, which is the number of test cases. Each test case starts with a line with two integers n and m, which are the number of islands and the number of bridges in the map, respectively. The next line contains n positive integers, the i-th number being the V_i value of island i. Each value is no more than **100**. The following m lines are in the form **x y**, which indicates there is a (two way) bridge between island **x** and island **y**. Islands are numbered from **1** to n. You may assume there will be no more than **13** islands.

Output:

For each test case, output a line with two numbers, separated by a space. The first number is the maximum value of a best triangular Hamilton path; the second number should be the number of different best triangular Hamilton paths. If the test case does not contain a Hamilton path, the output must be 0 0.

Note: A path may be written down in the reversed order. We still think it is the same path.

Sample Input:

```
2
3  3
2  2  2
1  2
2  3
3  1
4  6
1  2  3  4
1  2
1  3
1  4
2  3
2  4
3  4
```

Sample Output:

```
22  3
69  1
```

套路！

套路！

套路！