

# BAN vs IND

India is going to tour Bangladesh in the next month. The two great rivals are going to face each other in Bangladesh in the month of June. They will play  $2M - 1$  matches in the upcoming series. All of you know the terrible event happened in the recent World Cup. So, Bangladesh will try to give real fight to the Indians. The team winning  $M$  matches will be the series champion. The result of each game doesn't depend on the rest. And we are considering that there won't be any draw/abandon in a match.

What is the probability of Bangladesh to win the series?

## Input:

The first line of the input contains an integer,  $T$ , representing the number of test cases ( $1 \leq T \leq 1000$ ). For each test case, two numbers separated by space, the first one contains a number  $M$ ,  $1 \leq M \leq 50$ , representing the number of wins Bangladesh has to reach. The second one contains a number  $p$ ,  $0 \leq p \leq 1$ , representing the probability of Bangladesh to win a single match.

## Output:

For each test case the output should contain a single line with the case number and followed by the number representing the probability of Bangladesh to win the series (Print up to three decimal places).

See the sample I/O.

Sample Input	Sample Output
4	Case 1: 0.967
10 0.7	Case 2: 0.940
30 0.6	Case 3: 0.060
30 0.4	Case 4: 1.000
7 0.9	

## Limits:

Language	Time	Memory
C	1 Second	50MB
C++	1 Second	50MB

Java	4 Second	50MB
C#	4 Second	50MB

For Java, use main as class name, do not mark your class as public and do not use custom package.  
Follow Ideone rule for java compilation, if you get compile error, try your code in ideone.com to see your problem.