

Kickstart Practice Round 2
2017

A. Diwali lightings

[B. Safe Squares](#)[C. Beautiful Numbers](#)[D. Watson and Intervals](#)[Questions asked](#)

Submissions

Diwali lightings

5pt	Not attempted 89/141 users correct (63%)
8pt	Not attempted 62/87 users correct (71%)

Safe Squares

6pt	Not attempted 55/58 users correct (95%)
13pt	Not attempted 25/53 users correct (47%)

Beautiful Numbers

6pt	Not attempted 51/63 users correct (81%)
15pt	Not attempted 14/39 users correct (36%)

Watson and Intervals

8pt	Not attempted 12/15 users correct (80%)
17pt	Not attempted 7/10 users correct (70%)

Top Scores

Benq	78
1717374	78
yubowenok	78
gridnevvvit	78
LiCode	65
Yash....	53
YourRatzon	53
broncos.billy	53
cmroz	53
sam1373	50

Problem A. Diwali lightings

This contest is open for practice. You can try every problem as many times as you like, though we won't keep track of which problems you solve. Read the [Quick-Start Guide](#) to get started.

Small input
5 points

Solve A-small

Large input
8 points

Solve A-large

Problem

Diwali is the festival of lights. To celebrate it, people decorate their houses with multi-color lights and burst crackers. Everyone loves Diwali, and so does Pari. Pari is very fond of lights, and has transfinite powers, so she buys an infinite number of red and blue light bulbs. As a programmer, she also loves patterns, so she arranges her lights by infinitely repeating a given finite pattern **S**.

For example, if **S** is BBRB, the infinite sequence Pari builds would be BBRBBBRRBBB... .

Blue is Pari's favorite color, so she wants to know the number of blue bulbs between the **I**th bulb and **J**th bulb, inclusive, in the infinite sequence she built (lights are numbered with consecutive integers starting from 1). In the sequence above, the indices would be numbered as follows:

B	B	R	B	B	B	R	B	B	B	R	B	...
1	2	3	4	5	6	7	8	9	10	11	12	

So, for example, there are 4 blue lights between the 4th and 8th positions, but only 2 between the 10th and 12th.

Since the sequence can be very long, she wrote a program to do the count for her. Can you do the same?

Input

The first line of the input gives the number of test cases, **T**. **T** test cases follow. First line of each test case consists of a string **S**, denoting the initial finite pattern. Second line of each test case consists of two space separated integers **I** and **J**, defined above.

Output

For each test case, output one line containing Case #x: y, where x is the test case number (starting from 1) and y is number of blue bulbs between the **I**th bulb and **J**th bulb of Pari's infinite sequence, inclusive.

Limits

$1 \leq T \leq 100$.
 $1 \leq \text{length of } S \leq 100$.
 Each character of **S** is either uppercase B or uppercase R.

Small dataset

$1 \leq I \leq J \leq 10^6$.

Large dataset

$1 \leq I \leq J \leq 10^{18}$.

Sample

Input	Output
3	Case #1: 4
BBRB	Case #2: 2
4 8	Case #3: 500000
BBRB	
10 12	
BR	
1 1000000	

Cases #1 and #2 are explained above.

In Case #3, bulbs at odd indices are always blue, and bulbs at even indices are always red, so there are half a million blue bulbs between positions 1 and 10^6 .

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