

## Problem K. Last Defence

### Description

Given two integers  $A$  and  $B$ . Sequence  $S$  is defined as follow:

- $S_0 = A$
- $S_1 = B$
- $S_i = |S_{i-1} - S_{i-2}|$  for  $i \geq 2$

Count the number of distinct numbers in  $S$ .

### Input

The first line of the input gives the number of test cases,  $T$ .  $T$  test cases follow.  $T$  is about 100000.

Each test case consists of one line - two space-separated integers  $A, B$ . ( $0 \leq A, B \leq 10^{18}$ ).

### 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 the number of distinct numbers in  $S$ .

### Samples

Sample Input	Sample Output
2	Case #1: 6
7 4	Case #2: 5
3 5	