

Fun With Fibonacci

The **Fibonacci sequence** is a set of numbers that starts with a **zero**, followed by a one, and proceeds based on the rule that, each number (*called a Fibonacci number*) is equal to the sum of the previous two numbers. If the Fibonacci sequence is denoted **F(n)**, where **n** is the term in the sequence,



Now your task is to find the total number of odd fibonacci numbers and total number of even fibonacci numbers between a range (*consider 0 as an even number*).

Input

First Line of the input contains **T**, representing the number of test case ($1 \leq T \leq 50$). For each test case contains two integers **N** and **M** where ($1 \leq N \leq 10^{18}$) and ($1 \leq M \leq 10^{18}$).

Output

You have to calculate total number of **odd** fibonacci numbers and total number of **even** fibonacci numbers between **Nth** fibonacci number and **Mth** fibonacci number.

For each test case print case number with the desire answer as show sample output.

Example

Input:

```
2
2 6
1 5
```

Output:

```
Case 1:
Odd = 4
Even = 1
Case 2:
Odd = 3
Even = 2
```