

## 1135 - Count the Multiples of 3

You have an array with  $n$  elements which is indexed from  $0$  to  $n - 1$ . Initially all elements are zero. Now you have to deal with two types of operations

1. Increase the numbers between indices  $i$  and  $j$  (inclusive) by  $1$ . This is represented by the command ' $0\ i\ j$ '.
2. Answer how many numbers between indices  $i$  and  $j$  (inclusive) are divisible by  $3$ . This is represented by the command ' $1\ i\ j$ '.

### Input

Input starts with an integer  $T$  ( $\leq 5$ ), denoting the number of test cases.

Each case starts with a line containing two integers  $n$  ( $1 \leq n \leq 10^5$ ) and  $q$  ( $1 \leq q \leq 50000$ ) denoting the number of queries. Each query will be either in the form ' $0\ i\ j$ ' or ' $1\ i\ j$ ' where  $i, j$  are integers and  $0 \leq i \leq j < n$ .

### Output

For each case, print the case number first. Then for each query in the form ' $1\ i\ j$ ', print the desired result.

Sample Input	Output for Sample Input
1	Case 1:
10 9	2
0 0 9	3
0 3 7	0
0 1 4	2
1 1 7	
0 2 2	
1 2 4	
1 8 8	
0 5 8	
1 6 9	

### Note

Dataset is huge, use faster i/o methods.