

Codeforces :: Daily Practice

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[+] E. No Effect XOR

You are given a segment $[l, r]$ and a frog on each position in this range. Choose a positive integer x such that after every frog jumps from position i to $i \text{ XOR } x$, all frogs still remain inside the segment $[l, r]$. The task is to count the number of valid values of x .

-> <https://codeforces.com/contest/2180/problem/E>

[+] G. Balance

You start with an empty array and process a sequence of operations including insertions, deletions of the middle element, and queries. At each query, you must compute the sum of balance values over all non-empty subsequences, where the balance of a sequence b is defined as the sum of $i * b[i]$.

-> <https://codeforces.com/contest/2180/problem/G>

[+] F2. Control Car (Hard Version)

You are given an n by m grid where each cell contains a direction. A car starts at cell $(1, 1)$ and moves according to gravity rules. The task is to count the number of valid grid orientations such that the car stops inside the grid without leaving it.

-> <https://codeforces.com/contest/2180/problem/F2>

[+] H2. Bug Is Feature (Hard Version)

Several impartial games are played in parallel. Each game starts with three numbers forming an arithmetic progression. Players take turns increasing one value while preserving the progression and staying within a limit x . For each query range, determine the winner assuming optimal play.

-> <https://codeforces.com/contest/2180/problem/H2>