

We can prove that we should never take more than 2 consecutive  $-1$  operations. Suppose we reach an integer with  $i$   $/2$  operations and  $j$   $/3$  operations. Then that integer is  $\lfloor \frac{n}{2^i 3^j} \rfloor$ , independent of the order of the  $/2$  and  $/3$  operations. Use memoization to compute the optimal solution, and we know  $i, j \leq O(\log n)$ .  $O(\log^2 n)$ .

## References