

# Kim's Quest

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This task is solvable with dynamic programming. We can process numbers one by one, and calculate the number of Harmonious Subsequences in the first  $i$  numbers of the initial sequence, such that the last number is  $x \in \{0, 1\}$ , and the number before the last is  $y \in \{0, 1\}$  (or that there are less than 2 numbers). Knowing these values, it's easy to add  $i + 1$ -th number, you just need to make sure that  $(x + y + a_{i+1}) \bmod 2 \neq 1$ .

This idea gives us a solution in  $\mathcal{O}(n)$  memory and time.