DP, like dijkstra.

- 1.  $O(n^2)$ . there's a pruning strategy: let f[i] denote the best result when i is the last number, U be the largest number in input and  $t \le t^*$  be the current best solution, if  $f[i] + \log_2 \frac{U}{i} \le t$  then the number i is not useful.
- userul. 2. the number of divisors of U is  $2^{O(\frac{\log U}{\log \log U})}$ , where the exponent is  $\approx \log 2 \cdot \frac{\log U}{\log \log U}$ . https://en.wikipedia.org/wiki/Divisor\_function the total running time is  $n \cdot 2^{O(\frac{\log U}{\log \log U})}$ .

## References