1. Let $f[y]$ denote the gcd of all numbers being a multiple of y. When we insert a new number x, update all $f[y]$ where y is a factor of x. $O(n \cdot \sigma(U) \cdot \log U) = n \cdot 2^{O(\frac{\log U}{\log \log U})}$.
2. We can get gcd x iff the gcd of all $a[i]$'s being a multiple of x equals to x. $O(\sum_{i=1}^{U} \frac{U}{i}) = O(U \log U)$.
3. After computing $f[x]$, we can update $f[\frac{x}{p_i}]$ for each prime factor p_i of x. We can use $O(U)$-$O(1)$ gcd, and standard gcd also takes $\sum_{i=1}^{U} \log \frac{U}{i} = O(U)$ time in total. $O(\sum_i \frac{U}{p_i}) = O(U \log \log U)$.

Number of Different Subsequences GCDs

Submission Detail

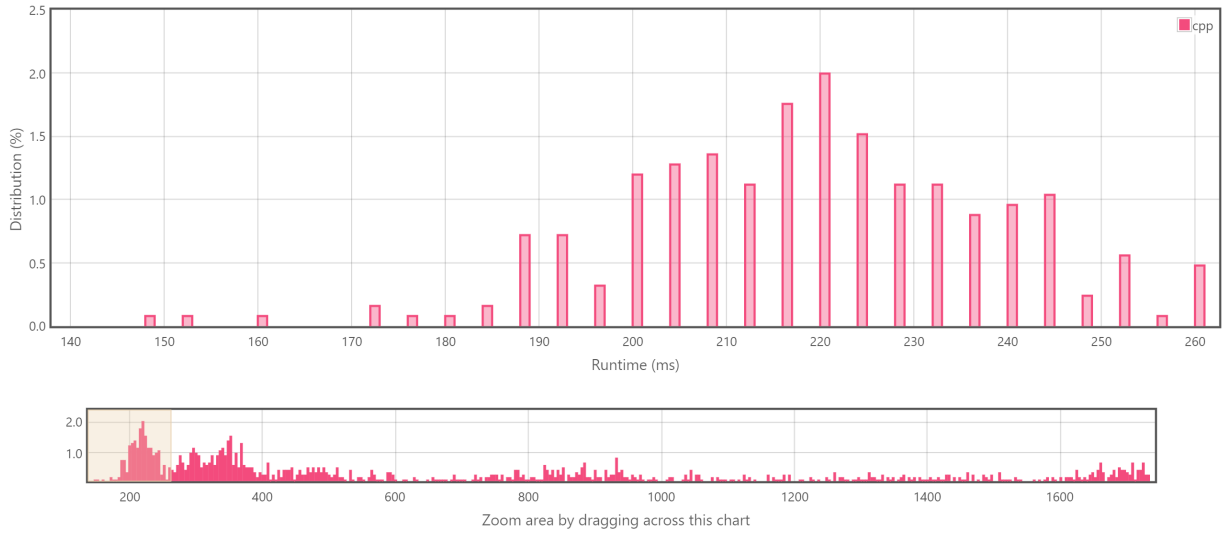
39 / 39 test cases passed.

Status: Accepted

Runtime: **112 ms**
Memory Usage: **71.2 MB**

Submitted: **0 minutes ago**

Accepted Solutions Runtime Distribution



References