GCD (greatest common divisor)

eg: $\gcd(42, 12) = 6$

$\gcd(a, 0) = |a|$

$\gcd(12, 6) = 6$

↳ when smaller is the divisor of bigger number.

$\gcd(12, 12) = 12$

★ for maximum gcd for a pair in 1 to N

$\gcd(a, b) = g$

let $b > g$, then since g divides b then $2 \rightarrow \boxed{b \geq 2g}$

Thus, maximum $= N/2$

LCM (least common multiple)

eg:

$$\text{lcm}(42, 12) = 84$$

$$\gcd(a, 0) = a$$

relationship $\Rightarrow \gcd(a,b) \times \text{lcm}(a,b)$

$\Rightarrow |a \times b|$

$$\text{lcm}(a,0) = \frac{|a \times b|}{\gcd(a,0)} = \frac{0}{a} = 0$$

Thus, $\text{lcm}(a,0) = 0$

$$\text{lcm}(12, 6) = 12$$

$$\text{lcm}(12, 12) = 12$$

Thus, only time gcd and lcm of two numbers a and b is equal when $\boxed{a == b}$

☆ maximum LCM from 1 to N,
lcm for two consecutive numbers
is $(a * (a+1))$.

Thus, maximum = $\underline{\underline{N * (N-1)}}$

Question →
In the array, for all pair
if the difference b/w gcd and
lcm = 0, count them.

Meaning, same number should
apper twice in the array

Thus, → finding duplicates in
the array, first sort then
check if (nums[i] == nums[i+1])