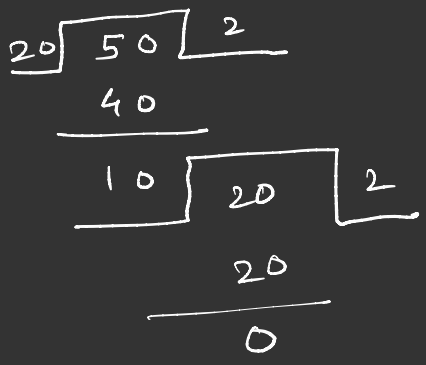
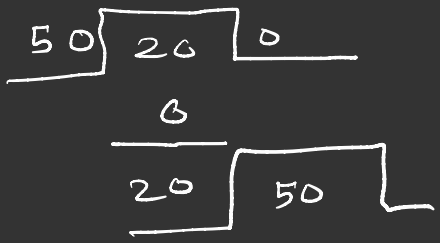
GCD / GCD

20 50





gcd(int a, int b)

gcd(b, a%b)

lcm * hcf/gcd = a * b

lcm = a * b / gcd

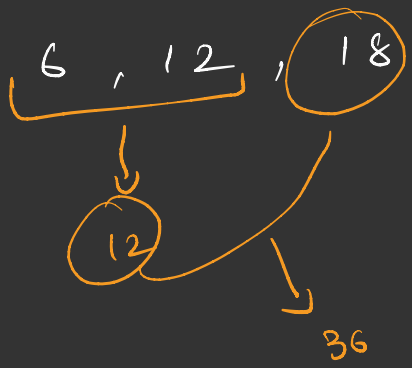
Lcm ⇒ least common multiple

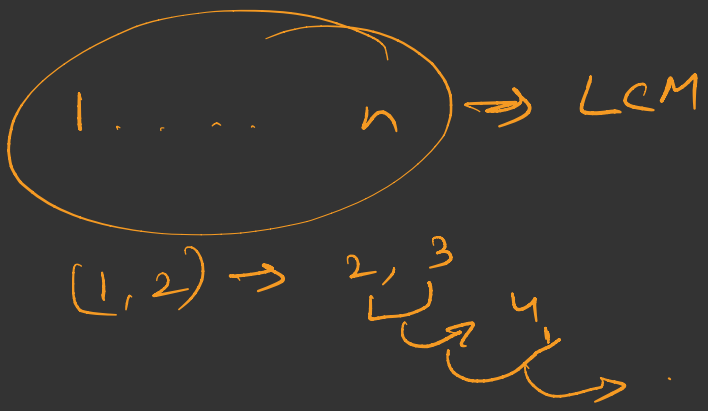
(a, b)

Ques Evenly divisible number

⇒ lcm (1 . . . . n)

⇒ lcm(a, b, c) ⇒ lcm (lcm(a, b), c)



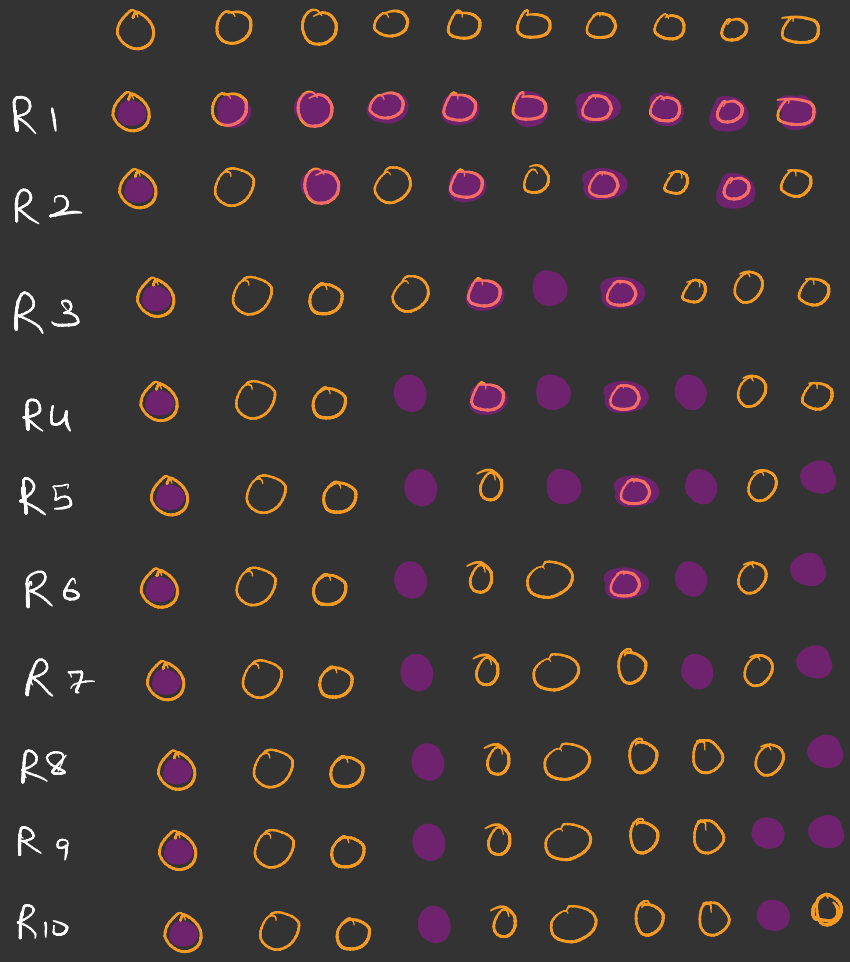


Ques Toogle bulb

1 2 3 4 5 6 7 8 9 10

n = 10

⇒ 3



B1 ⇒ 1

B4 1, 2, 4

B9 1, 3, 9

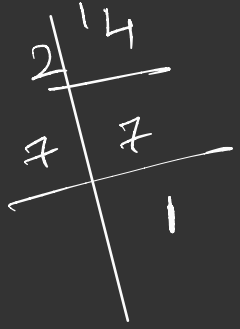
B6 1, 2, 3, 6

B8 1, 2, 4, 8

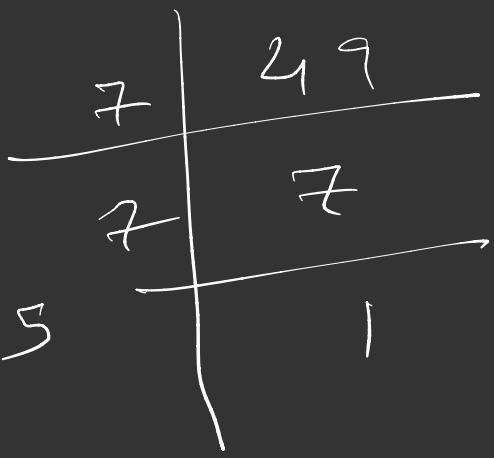
B5 = 1, 5

B10 = 1, 2, 5, 10

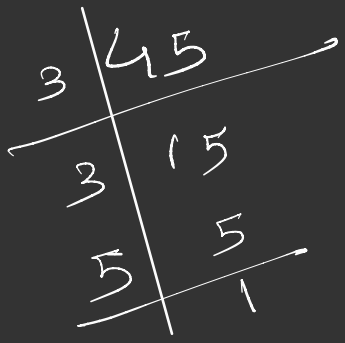
0 → 1 → 0 → 1



14 ⇒ 2, 7



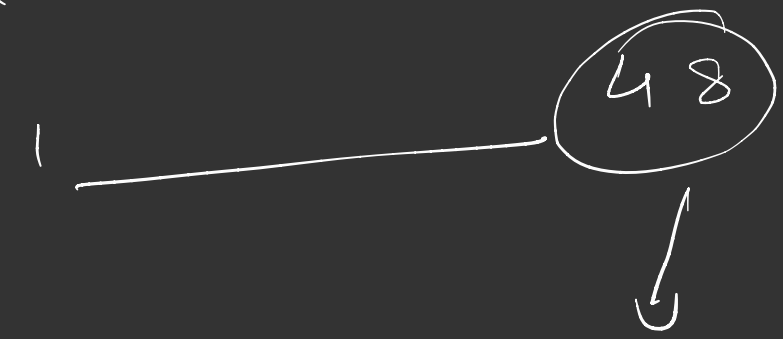
3, 5



7

$6^2 \Rightarrow 36$

$7^2 \Rightarrow 49$



$\sqrt{48} \Rightarrow 6.9\ldots$

1, 2, 3, 4, 5, 6,

1 4 9 16 25 36

Ques $n \longrightarrow$ 2 prime numbers whose sum is n

$2 \rightarrow 1, 1$

$6 \rightarrow 1, 5$

Seive $\rightarrow O(n)$

70

1	69
2	68
3	67

```
for(i = 1; i <= n/2 ; i++) {
    if( sieve[i] == T && sieve[n-i] == T ){
        syso (i, n-i);
    } return
}
```

$n \times \log_2(\log_2 n)$

$n = 10^9$

$10^9 \approx 2^{30}$

$10^3 \Rightarrow 1000 \approx 2^{10} \Rightarrow 1024$

$10^9 \times \log_2 \log 10^9$

$10^9 \times \log_2 \log 2^{30}$

$10^9 \times \log_2 30$

5×10^9

$32 \approx 2^5 \times 30$