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Section → KRG-2B.

Q) Given 3 int. n, a, b return nth magical no. Ans. can be very large int. 10^9+7.
Magical number → if no. is either divisible by a or b.
Test case → n=1 a=2 b=3
O/P → 2

(I) Brute force →

```
int i = min(a,b);
int ans=0;
while(n){ count
if(i%a==0 || i%b==0){
        ans++;
  }
   if(count==n)
        return i%(10^9+7);
}
i++;}
```

(II) Optimal →

```
int find(int a, int b, int c){
  int l = min(a,b);
  int h = n * min(a,b);
  int lcm = (a*b) / gcd(a,b);
            gcd(a,b)

while[low <= high){
  mid = l + (h-l)/2;

int cnt = (mid/a) + (mid/b) - (mid/lcm)
```

```
if (cnt >= n) {
        hb = mid;
    }
else { lb = mid + 1
    }
    return low % (10^7 + 7);
}
```

Inp → 1, 2, 3
O/p → 2

Complexity: O(log min(a, b));