

1 25 121 169

2 26 122 170

$$\gcd(a_1 + i, \dots, a_n + i)$$

2 %2

%2
 1 1 1 1 1 1

%3 1 1 1 1 1 1

%8 1 1 1 1 1 1

%24 1 1 1 1 1 1

1 25 121 169

+24 | +26 | +48

$\gcd(\dots)$ gives us upper bound!

all divisors

limit a_i

now b_i

pick k glasses
 maximize water in them

half filled when moving

$k=4$

6 6 10
 5 5 2

Σ

$k=1$

5 5 10
 4 3 2

$5\frac{1}{2}$

$k=2$

6 6 10
 5 5 2

k A B C

1 ✓

2 ✓ ✓

3 ✓ ✓ ✓

DP?

$$D_{n,k} = (\text{res}, \text{left})$$

↑
capacity left

config:

(water, capacityLeft, extraWater)

transitions

pour-into
 pour-out-of

10000,000

pick k glasses

⇓

config: (waterInside, capacityLeft)
 $[0..10000]$ $[0..10000]$

⇓

reduces to answer!

(because we know total \leq
 of water)

12

6 5 $\Rightarrow 5 + 1 = 6$

10 2 $\Rightarrow 2 + 8 = 10$

$$4 + \min(8, 12 - 8) =$$

10 12

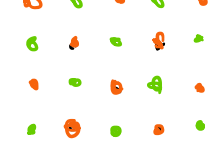
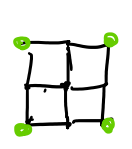
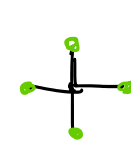
7 16

1

2

3

4



4

4

12

13