Min Jump With +I -I moves

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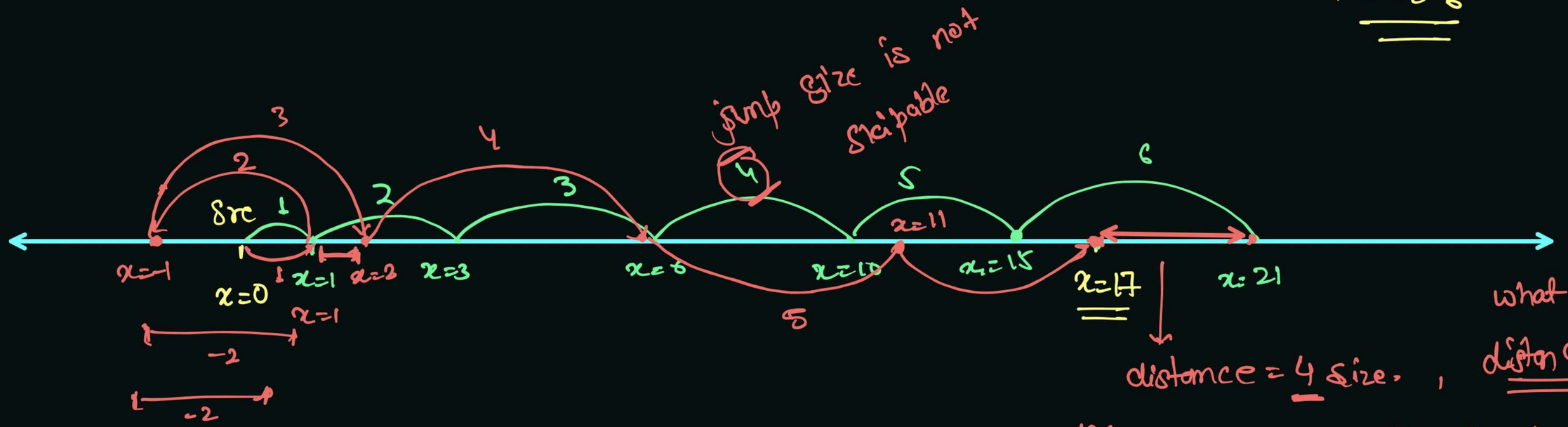
→ first allowed jump = 1 unit distance, direction → left/Right
→ consecutive jump size ±1 Right -1 for left
→ Min no. of jump.

Min → Reach toward destination

Min = 6

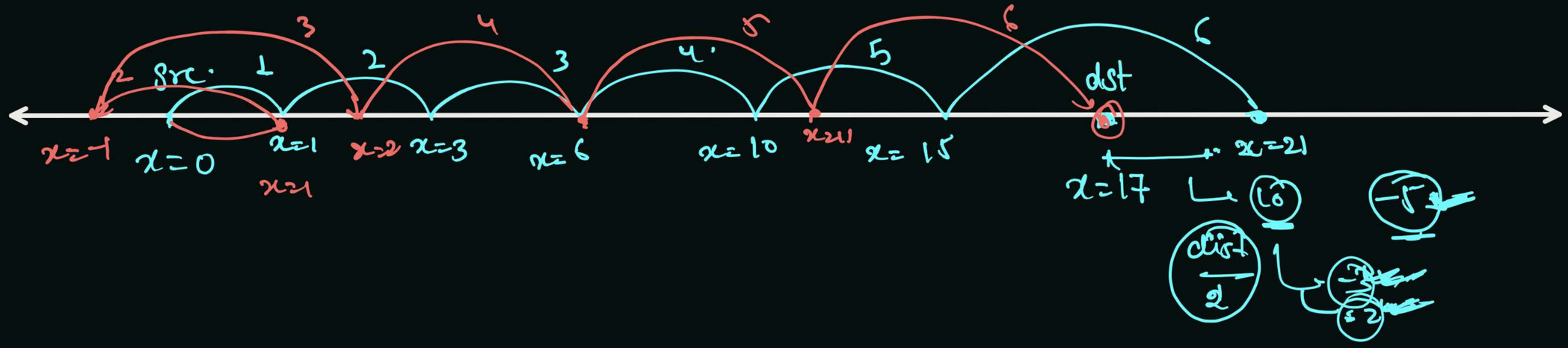


distance = 4 size. , distance = 5.

what if

= distance / 2 in opposite direction

= 4/2 = 2 → opposite direct.



travel continuously in forward direction.

* if dst encounter → jump count is Result
* if cross dst point →

difference of dst and point

→ Even → Jump count [crossed jump cont]

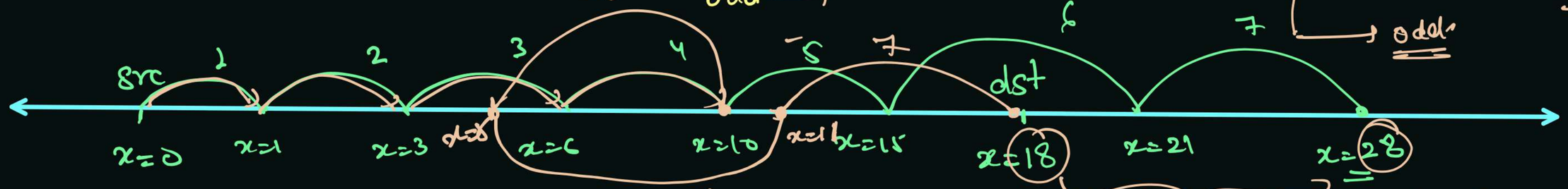
→ why?? → diff/2 is opposite direction

diff = 21 − 17 = 4/2 = 2

→ odd → take another jump → diff2

→ Even → jump cont

→ odd



diff/2 = 10/2 = 5 → in +ve direction

diff = 3 → odd

diff = 28 − 18 = 10

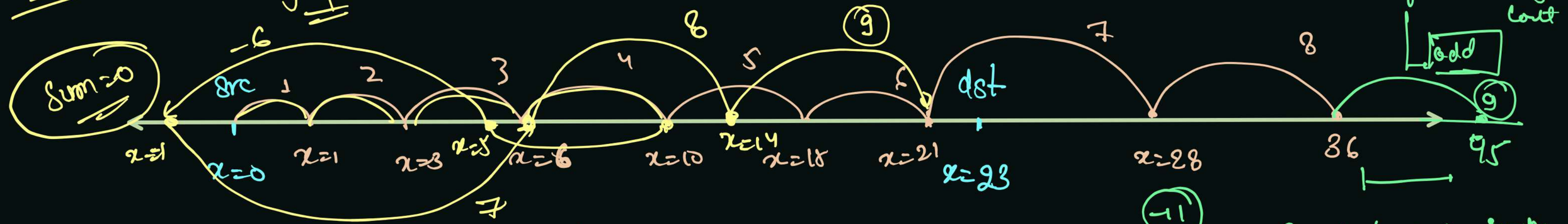
Code:

Time complexity

after diff 2 → Even → jump count
→ odd.

diff 1 → Even → jump count
→ odd → another jump

diff 2 → Even jump count



not for coin]

diff = 1 = 28 - 23 = 5 → odd (diff 1), take another jump

diff = 2 = 36 - 23 = 13 → odd (diff 2)

take another jump, diff 3 = 45 - 23 = 22

$\frac{diff3}{2} = \frac{22}{2} = 11$

take distance in opposite direction → 5, 6

sum of jumps > -jump

-ve jump → d1 + d2 + .. dn

target sum

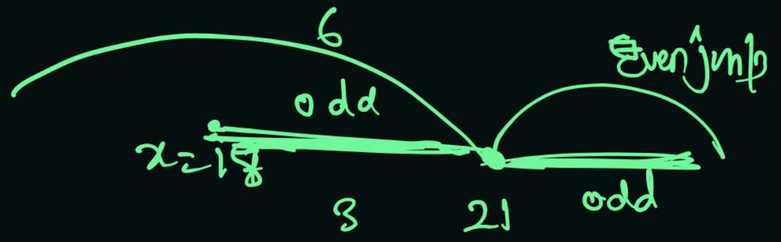
$\frac{diff}{2} = 5 \rightarrow$

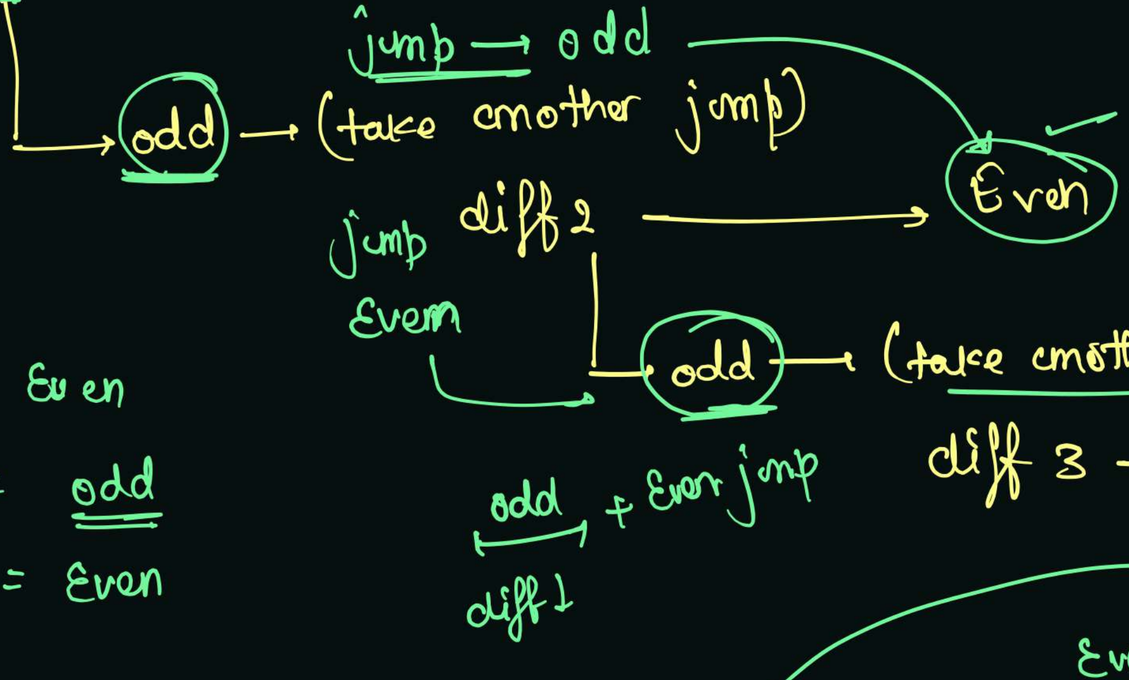
-6 → -1+2+3 / 1+5 / 2+4

-5 / -2, -3 / -1, -4

if dst encounter ⟶ result jump count

diff 1 ⟶ Even = jump count req



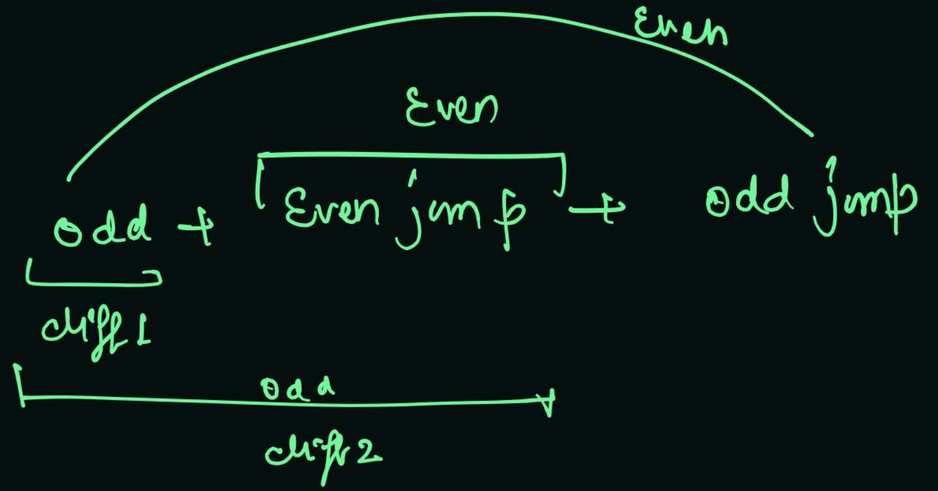


Logic

odd + odd = Even

odd + Even = odd

Even + Even = Even



Even + Even = Even

```
int sum = 0;
int jump = 0;

while(sum < target) {
    jump++;
    sum += jump;
}
```

$0 + 1 + 2 + 3 + \cdots + x^{th}\ term \leq (target = N)$

find 'x', time = x

Sum of first x natural no.

$$\frac{x(x+1)}{2} \leq N$$

$$x^2 + x - 2N \leq 0$$

$$x^2 + x - 2N = 0$$

$$x = \frac{-1 + \sqrt{1 + 8N}}{2}$$

$ax^2 + bx + c = 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

valid $= \frac{-b + \sqrt{b^2 - 4ac}}{2a}$

Solve for 'x',

$\Rightarrow x \propto \sqrt{N} \Rightarrow$ Time complexity $= O(\sqrt{N})$

Partition Labels

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⇒ max Impact using chaining technique

Hint

Similar problem → chunks to make to make array sorted 1,2

Hint

HashMap → last occurrence index

character vs. Integer

array of size 26

Result = [9, 7, 8]

time - O(n)

space - constant space

Hash → O(26) constant

Steps:

① Iterate on string and fill last occurrence index of a character in hash map.

② Check max impact and if max impact is equal to current index that means we are at partition index, merge length from that index.

Transpose M*N Matrix

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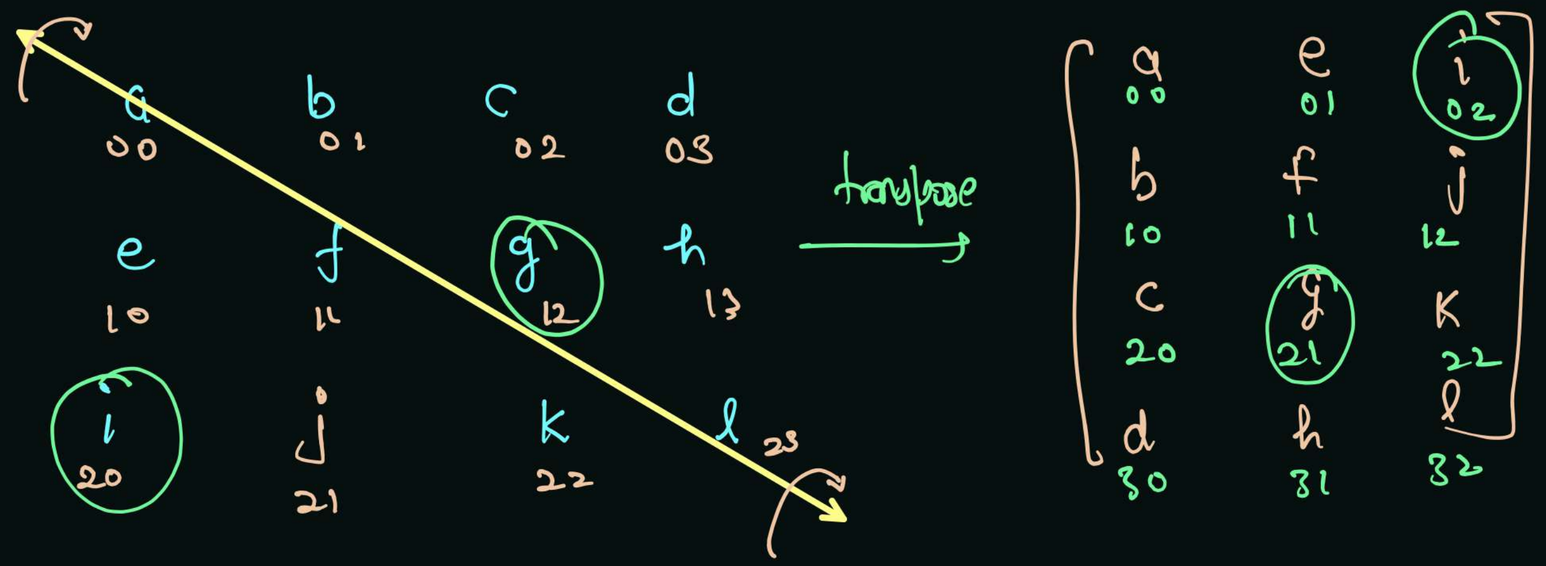

Row and column interchange →

N*N ⟶ without → Swapping in it

Rotate Image

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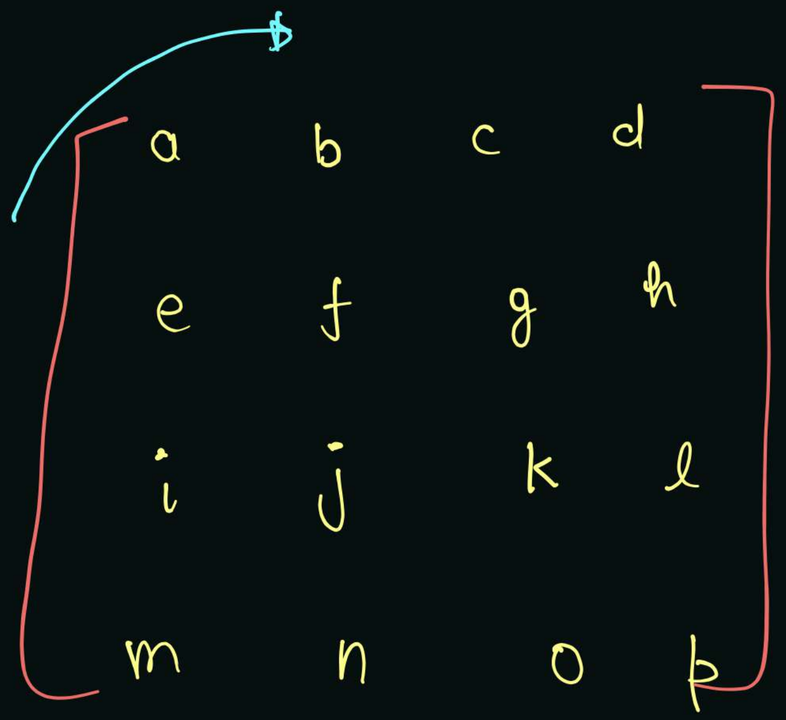
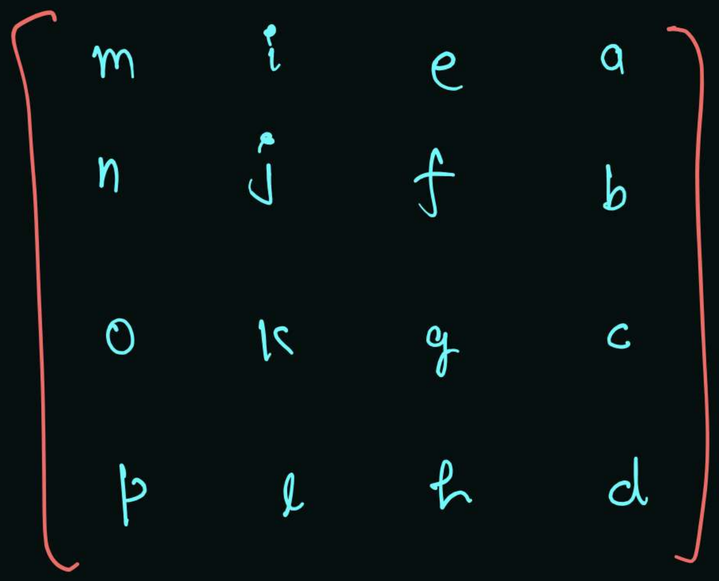
Rotate 90° clock wise



Rotate 90° deg.



Transpose

reverse every Row

Push Dominoes

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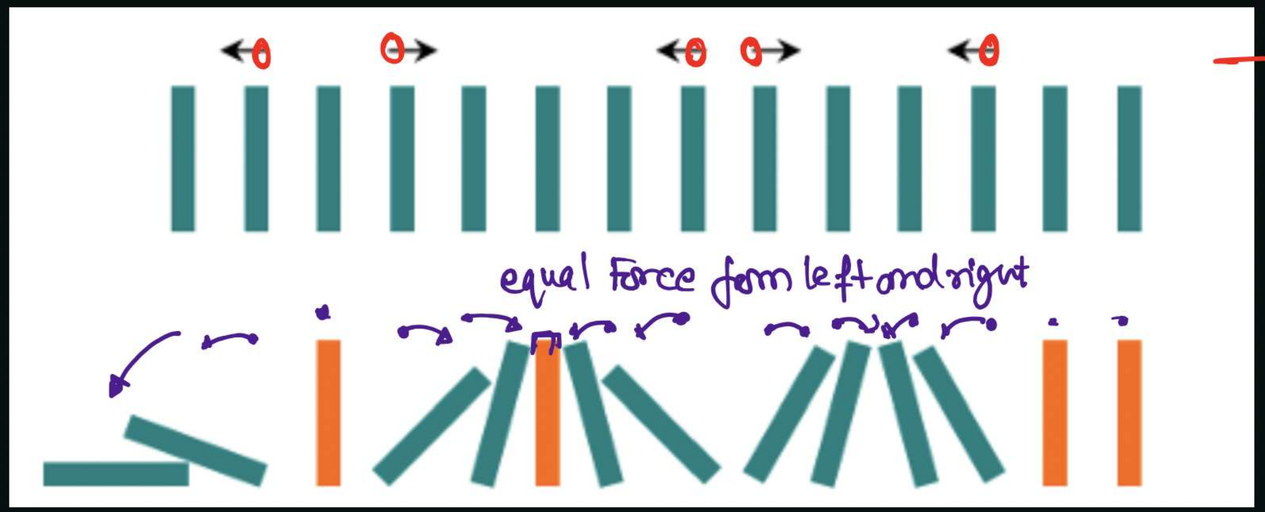
Input → ". L . R . . . L R . . L . ."



→ Initial applied forces.

Output "L L . R R . L L R R L L . ." → Result

Cases: →

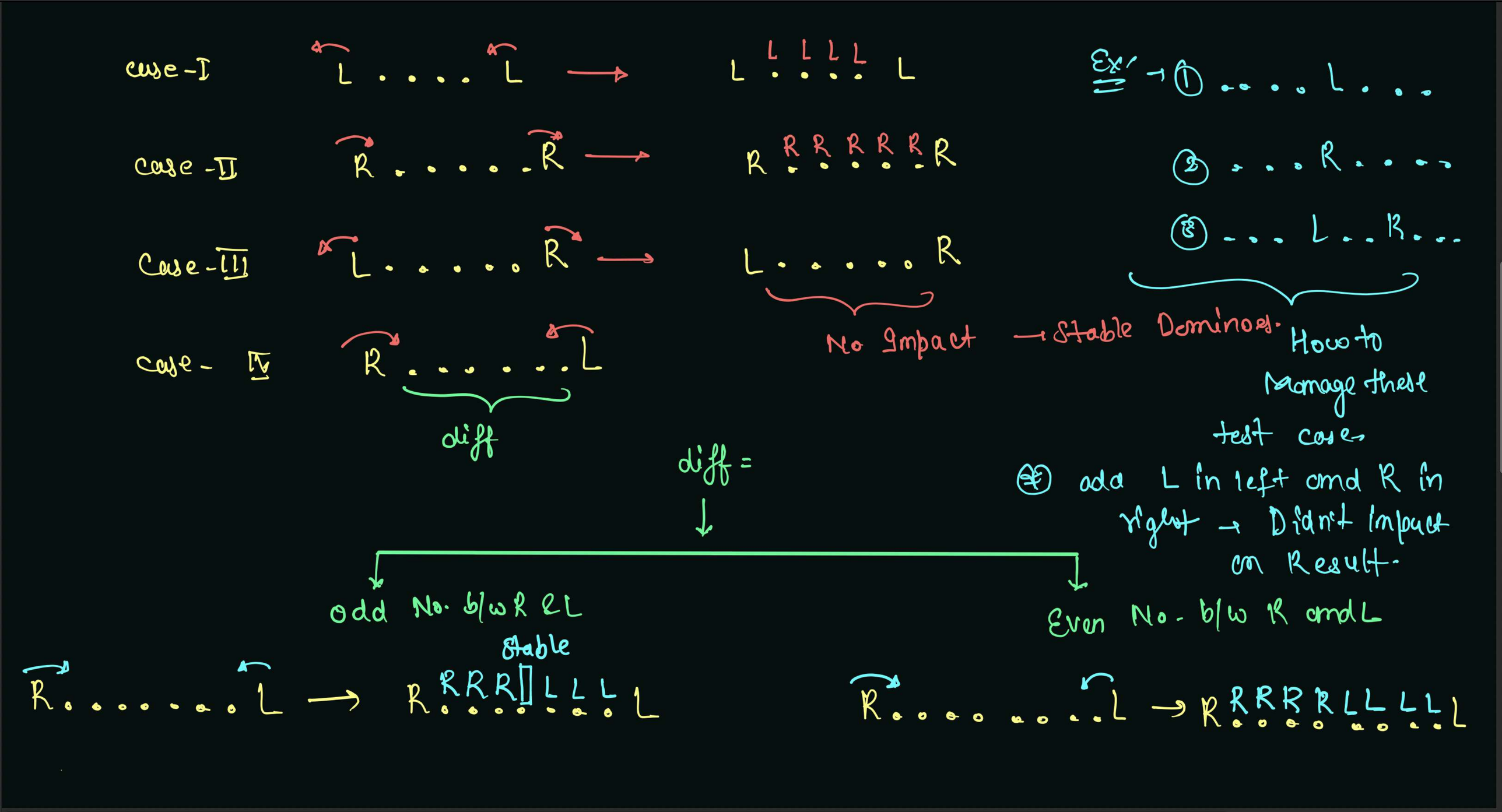
① L L

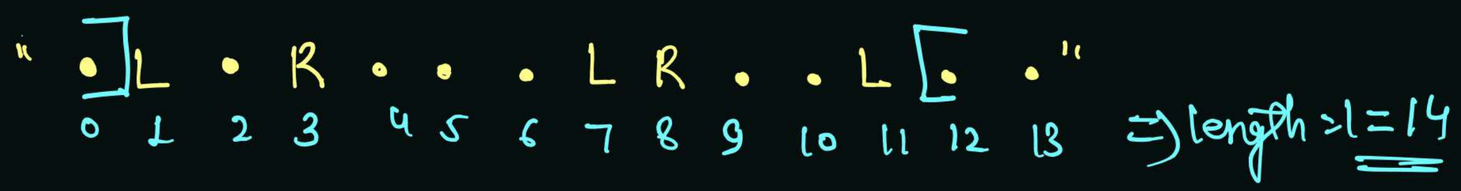
② R . . . . . R

③ L . . . . . R

④ R L

Analyse these cases and prepare Result.


case-I
L . . . . L → L L L L L L
case-II
R . . . . . R → R R R R R R R
Case-III
L . . . . . R → L . . . . . R
No Impact → Stable Dominos.
case- IV
R L
diff
Ex:
① . . . . L . . .
② . . . R . . . .
③ . . . L . . R . . .
How to Manage these test case.
④ add L in left and R in right → Didn't Impact on Result.
diff =
odd No. b/w R & L
Stable
R . . . . . L → R R R R L L L L
Even No. b/w R and L
R . . . . . L → R R R R L L L L



i = 0

while(arr[j] == '.')

j++;

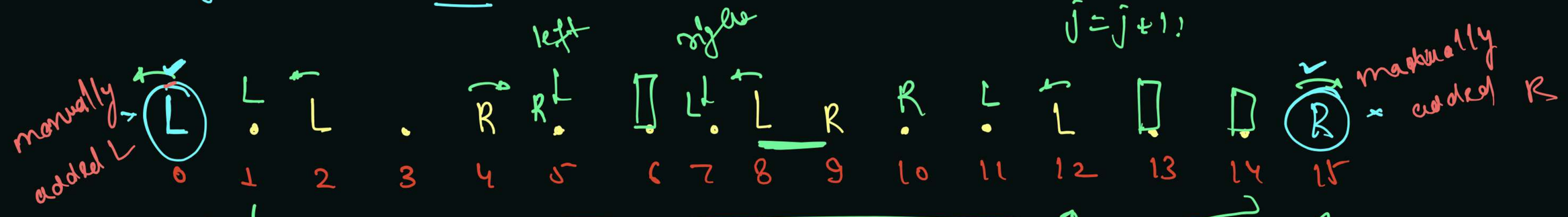
→ case many count

i = j;

j = j + 1;

j - i > 1

character array of size l+2.



left = i+1;
right = j-1;
while(left < right)

left = R

right L

append in String builder, then convert String builder in String

i

j

⊛ final Result = String concatenate