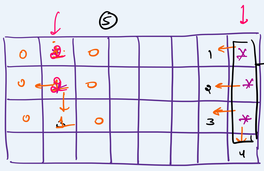
Q. Contain virus



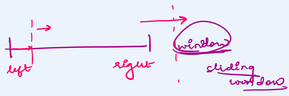
1. Find all regions — DFS / BFS
2. Get the region which has the most no. of uninfected neighbours which will cause the damage
3. Contain it.
4. For the remaining regions, expand them by infecting the uninfected neighbours.
5. Repeat above steps.

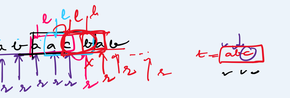
Q. Minimum window substring

s = adobecodebanc

t = abc

ans → banc





aabaac

aaacb

acbb

cbg

Q. Check if Array Pairs are divisible by k.

[1, 2, 3, 4, 5, 10, 6, 7, 8, 9] k = 5

no. pairs (k)

(1, 9), (2, 8), (3, 7), (4, 6), (5, 10)

① if (arr.length != 2) false

given 2 nums a & b

(a % k == x) && (b % k = k - x)

⇒ (a + b) % k == 0

a % k == x

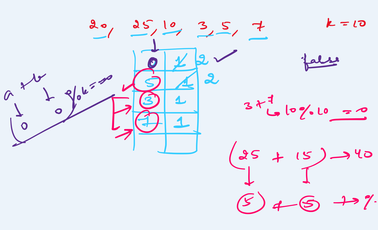
b % k == k - x

(a + b) % k = ((a + b) % k) % k

= (a % k + b % k) % k

= (x + k - x) % k

= k % k = 0



20, 25, 10, 3, 5, 7 k = 10

false

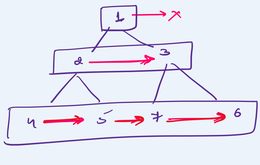
3 + 7 → 10 % 10 = 0

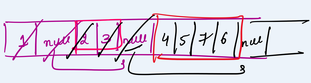
(25 + 15) → 40

5 + 5 → % 0

```
canArrange(arr, k) {
    int[] freq = new int[k];
    for(int num : arr) {
        num %= k;
        if(num < 0) num += k;
        freq[num]++;
    }
    if(freq[0] % 2 != 0) return false
    for(int i=1; i<=k/2; i++)
        if(freq[i] != freq[k-i])
            return false;
    return true;
}
```

Q. Populating next pointers in each node





TC → O(1)