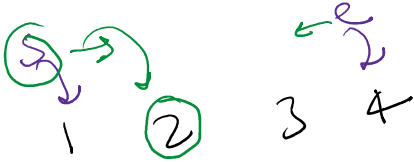


2.14 - Two Pointers

Sunday, July 6, 2025 10:42 AM

↳ Technique → not an algo
 ↓
 way of solving problems
 well defined steps

Two Sum

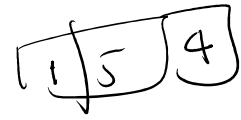


$$a[s] + a[e] = \underline{\underline{5}}$$

6

\int int arr[] = new int[2]
 {
 arr[0] = A[s];
 arr[1] = A[e];
 }

int arr[] = new int[] {1, 5, 4};



3 sum

1, 2, -2, 0, 1

1)

① -2 ② -1 ③ 0 ④ 1 ⑤ 2

E21012

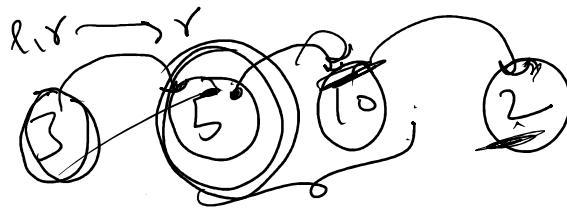
```
for (i = 0; i < n; i++) {
    for (j = i + 1; j < n; j++) {
        for (k = j + 1; k < n; k++) {
            if (a[i] + a[j] + a[k] == 0) {
                //
            }
        }
    }
}
```

-2 -1 0 1 2

graph

```
for (i=0; i<n; i++) {
    j = i+1;
    k = n-1;
    while (j < k) {
        // ...
    }
}
```

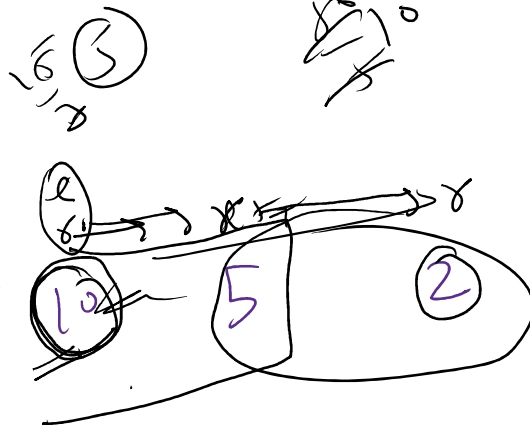
Two
 $n^2 \rightarrow n$
 $n^2 - n$



4

$k = 10$

$C = 1 + 2$
 $= 3$



$2 \times 5 = 10$

100

5

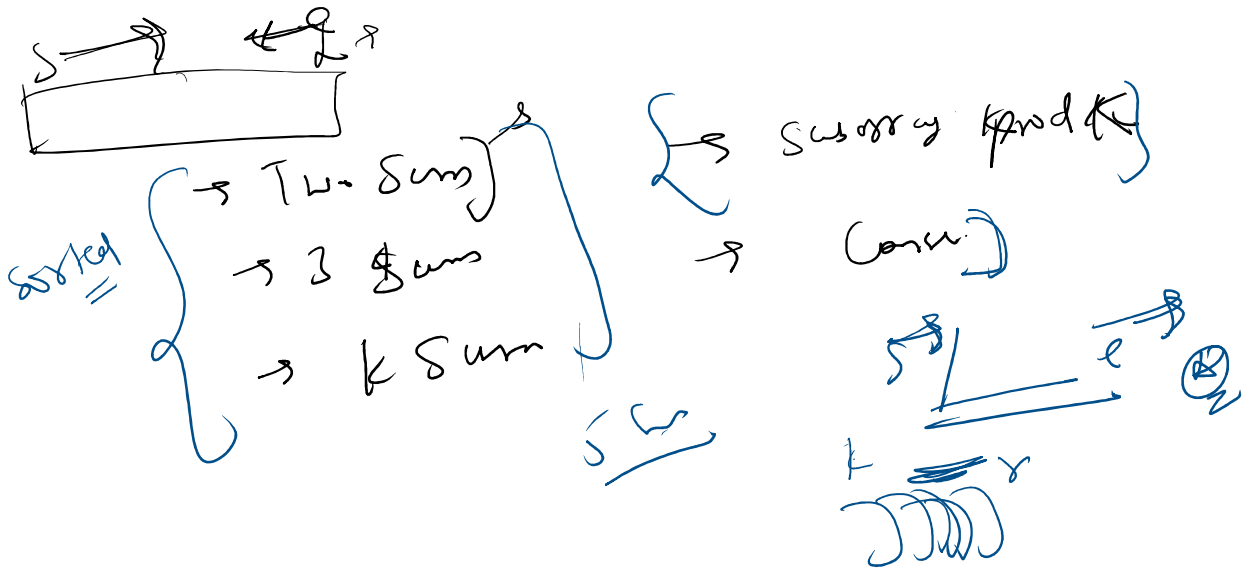
$C = (2+1)$

$100 < 100 > 100$

$100 < 100 > 100$

3

The number of 'New' subarrays b/w r and l is $(r-l+1)$



Pillars of OOPS

- Class
- object
- encapsulation
- Inheritance
- polymorphism

→ Abstraction

this
super
static
public
private

Final → to make something immutable

- variable
- method
- class

| → max
 | → class
 |||

Diff b/w static and final variables

⇒ static belongs to a class whereas final belongs to obj.

* static variables are mutable but final variables are immutable.

⇒ final variable has to be initialized during the class definition or in the constructor.

⇒ final method

→ [final methods can not be overridden]

⇒ final class

A final class cannot be inherited.