

# Babua DSA Patterns Course

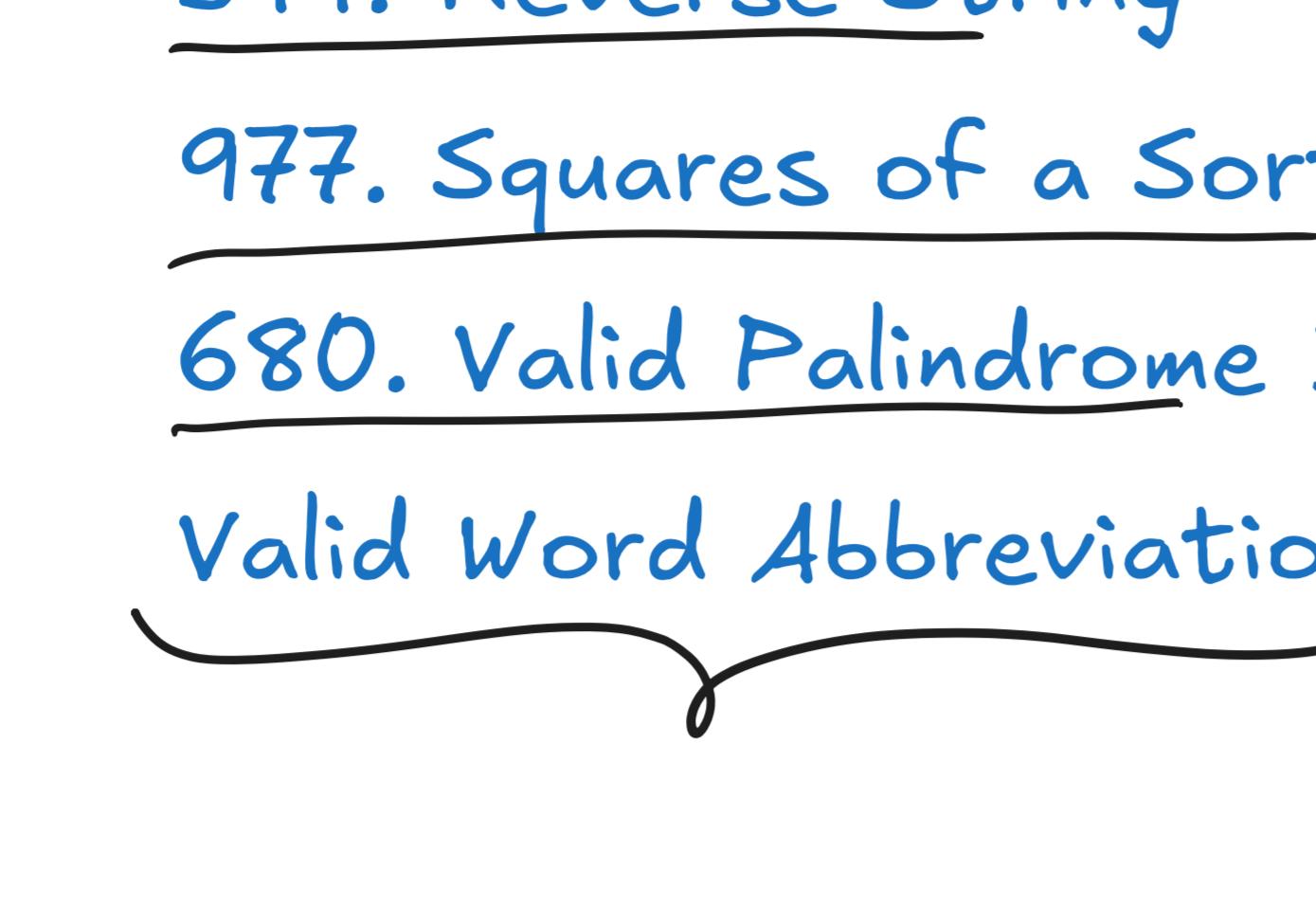
## Day 2/90

Comment "Done"

### Two Pointer Pattern

Linear Data structure (Array, String, Linked List)

Two variables (or) Two Pointers



125. Valid Palindrome

344. Reverse String

977. Squares of a Sorted Array

680. Valid Palindrome II

Valid Word Abbreviation

LeetCode Easy

LeetCode Easy

LeetCode Easy

LeetCode Easy

NeetCode Easy

125. Valid Palindrome

$s = \text{"A man, a plan, a canal: Panama"}$

$\rightarrow$

apple  
o 1 2 3 4  
j

i

```
class Solution {
    public boolean isPalindrome(String s) {
        int i = 0;
        int j = s.length() - 1;

        // op a
        // ...
        // j
        // left = a
        // right = p
        // T: O(n), S: O(1)
        while (i < j) {
            char left = s.charAt(i);
            char right = s.charAt(j);

            if (!Character.isLetterOrDigit(left)) {
                i++;
                continue;
            }

            if (!Character.isLetterOrDigit(right)) {
                j--;
                continue;
            }

            if (Character.toLowerCase(left) != Character.toLowerCase(right)) {
                return false;
            }

            i++;
            j--;
        }

        return true;
    }
}
```

344. Reverse String

$s = [\text{h}, \text{e}, \text{l}, \text{l}, \text{e}, \text{h}]$

$\text{temp} = \text{h}$

$T: O(n)$

$S: O(1)$

```
class Solution {
    public void reverseString(char[] s) {
        int i = 0;
        int j = s.length - 1;

        // o || e
        // ...
        // j
        // temp = e

        while (i < j) {
            char temp = s[i];
            s[i] = s[j];
            s[j] = temp;

            i++;
            j--;
        }
    }
}
```

977. Squares of a Sorted Array

$\text{nums} = [-4, -1, 0, 3, 10]$

$i, j$

$\text{res} = [0, 1, 9, 16, 100]$

$k = k + 1$

$k = k + 1$