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36. Valid Sudoku

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Determine if a `9 x 9` Sudoku board is valid. Only the filled cells need to be validated **according to the following rules**:

1. Each row must contain the digits `1-9` without repetition.
2. Each column must contain the digits `1-9` without repetition.
3. Each of the nine `3 x 3` sub-boxes of the grid must contain the digits `1-9` without repetition.

Note:

- A Sudoku board (partially filled) could be valid but is not necessarily solvable.
- Only the filled cells need to be validated according to the mentioned rules.

Example 1:

5	3			7				
6			1	9	5			
	9	8					6	
8				6				3
4			8		3			1

Code

C++ | Auto

```cpp
class Solution {
public:
    bool isValidSudoku(vector<vector<char>>& board) {
        bool result = true;
        // Check rows
        for (int i = 0; i < 9; i++) {
            for (int j = 0; j < 8; j++) {
                for (int k = j + 1; k < 9; k++) {
                    if (board[i][j] == board[i][k] && board[i][j] != ' ') {
                        result = false;
                        break;
                    }
                }
            }
        }
        // Check columns
        for (int i = 0; i < 9; i++) {
            for (int j = 0; j < 8; j++) {
                for (int k = j + 1; k < 9; k++) {
                    if (board[j][i] == board[k][i] && board[j][i] != ' ') {
                        result = false;
                        break;
                    }
                }
            }
        }
        return result;
    }
};
```

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532. K-diff Pairs in an Array

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Given an array of integers `nums` and an integer `k`, return *the number of **unique** k-diff pairs in the array*.

A **k-diff** pair is an integer pair `(nums[i], nums[j])`, where the following are true:

- `0 <= i, j < nums.length`
- `i != j`
- `|nums[i] - nums[j]| == k`

Notice that `|val|` denotes the absolute value of `val`.

Example 1:

> **Input:** nums = [3,1,4,1,5], k = 2
> **Output:** 2
> **Explanation:** There are two 2-diff pairs in the array, (1, 3) and (3, 5).

Code

C++ | Auto

```cpp
class Solution {
public:
    int findPairs(vector<int>& nums, int k) {
        int count = 0;
        // Sorting nums
        sort(nums.begin(), nums.end());

        for (int i = 0; i < nums.size(); i++) {
            for (int j = i + 1; j < nums.size(); j++) {
                if (nums[j] - nums[i] == k) {
                    count += 1;
                }
            }
        }
        return count;
    }
};
```