5269. Maximum Value of K Coins From Piles

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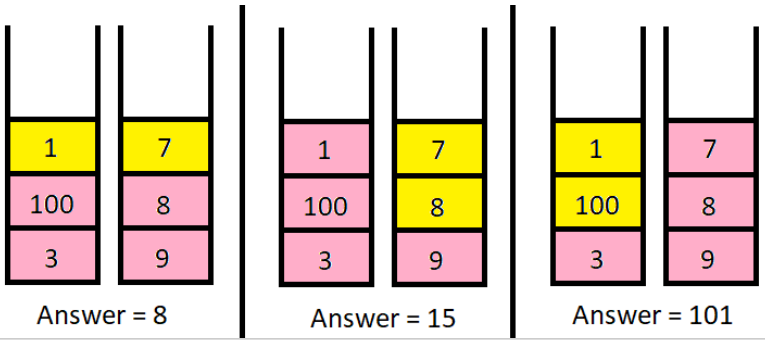
User Accepted:	0
User Tried:	0
Total Accepted:	0
Total Submissions:	0
Difficulty:	Hard

There are `n` **piles** of coins on a table. Each pile consists of a **positive number** of coins of assorted denominations.

In one move, you can choose any coin on **top** of any pile, remove it, and add it to your wallet.

Given a list `piles`, where `piles[i]` is a list of integers denoting the composition of the `i`th pile from **top to bottom**, and a positive integer `k`, return *the* ***maximum total value*** *of coins you can have in your wallet if you choose* ***exactly*** `k` *coins optimally*.

Example 1:



```
Input: piles = [[1,100,3],[7,8,9]], k = 2
Output: 101
Explanation:
The above diagram shows the different ways we can choose k coins.
The maximum total we can obtain is 101.
```

Example 2:

```
Input: piles = [[100],[100],[100],[100],[100],[100],[1,1,1,1,1,1,700]], k = 7
Output: 706
Explanation:
The maximum total can be obtained if we choose all coins from the last pile.
```

Constraints:

- `n == piles.length`
- `1 <= n <= 1000`
- `1 <= piles[i][j] <=` 10^5
- `1 <= k <= sum(piles[i].length) <= 2000`

JavaScript

```
const maxValueOfCoins = (piles, k) => {
    let dp = Array(k + 1).fill(0);
    for (const p of piles) {
        for (let i = k; ~i; i--) {
            let sum = 0;
            for (let j = 0; i + j + 1 <= k && j < p.length; j++) {
                sum += p[j];
                dp[i + j + 1] = Math.max(dp[i + j + 1], sum + dp[i]);
            }
        }
    }
    return dp[k];
};
```

☐ **Custom Testcase** Use Example Testcases

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