# 502. IPO

## Description

Suppose LeetCode will start its **IPO** soon. In order to sell a good price of its shares to Venture Capital, LeetCode would like to work on some projects to increase its capital before the **IPO**. Since it has limited resources, it can only finish at most `k` distinct projects before the **IPO**. Help LeetCode design the best way to maximize its total capital after finishing at most `k` distinct projects.

You are given `n` projects where the `i th` project has a pure profit `profits[i]` and a minimum capital of `capital[i]` is needed to start it.

Initially, you have `w` capital. When you finish a project, you will obtain its pure profit and the profit will be added to your total capital.

Pick a list of **at most** `k` distinct projects from given projects to **maximize your final capital**, and return *the final maximized capital*.

The answer is guaranteed to fit in a 32-bit signed integer.

### Example 1:

```
Input: k = 2, w = 0, profits = [1,2,3], capital = [0,1,1]
Output: 4
Explanation: Since your initial capital is 0, you can only start the project indexed 0.
After finishing it you will obtain profit 1 and your capital becomes 1.
With capital 1, you can either start the project indexed 1 or the project indexed 2.
Since you can choose at most 2 projects, you need to finish the project indexed 2 to get the maximum capital.
Therefore, output the final maximized capital, which is 0 + 1 + 3 = 4.
```

### Example 2:

```
Input: k = 3, w = 0, profits = [1,2,3], capital = [0,1,2]
Output: 6
```

### Constraints:

- `1 <= k <= 10 5`
- `0 <= w <= 10 9`
- `n == profits.length`
- `n == capital.length`
- `1 <= n <= 10 5`
- `0 <= profits[i] <= 10 4`
- `0 <= capital[i] <= 10 9`