5801. Eliminate Maximum Number of Monsters

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

You are playing a video game where you are defending your city from a group of `n` monsters. You are given a **0-indexed** integer array `dist` of size `n`, where `dist[i]` is the **initial distance** in meters of the i^{th} monster from the city.

The monsters walk toward the city at a **constant** speed. The speed of each monster is given to you in an integer array `speed` of size `n`, where `speed[i]` is the speed of the i^{th} monster in meters per minute.

The monsters start moving at **minute 0**. You have a weapon that you can **choose** to use at the start of every minute, including minute 0. You cannot use the weapon in the middle of a minute. The weapon can eliminate any monster that is still alive. You lose when any monster reaches your city. If a monster reaches the city **exactly** at the start of a minute, it counts as a **loss**, and the game ends before you can use your weapon in that minute.

Return *the **maximum** number of monsters that you can eliminate before you lose, or* `n` *if you can eliminate all the monsters before they reach the city.*

Example 1:

```
Input: dist = [1,3,4], speed = [1,1,1]
Output: 3
Explanation:
At the start of minute 0, the distances of the monsters are [1,3,4], you eliminate the first monster.
At the start of minute 1, the distances of the monsters are [X,2,3], you don't do anything.
At the start of minute 2, the distances of the monsters are [X,1,2], you eliminate the second monster.
At the start of minute 3, the distances of the monsters are [X,X,1], you eliminate the third monster.
All 3 monsters can be eliminated.
```

Example 2:

```
Input: dist = [1,1,2,3], speed = [1,1,1,1]
Output: 1
Explanation:
At the start of minute 0, the distances of the monsters are [1,1,2,3], you eliminate the first monster.
At the start of minute 1, the distances of the monsters are [X,0,1,2], so you lose.
You can only eliminate 1 monster.
```

Example 3:

```
Input: dist = [3,2,4], speed = [5,3,2]
Output: 1
Explanation:
At the start of minute 0, the distances of the monsters are [3,2,4], you eliminate the first monster.
At the start of minute 1, the distances of the monsters are [X,0,2], so you lose.
You can only eliminate 1 monster.
```

Constraints:

- `n == dist.length == speed.length`
- `1 <= n <= 10^5`
- `1 <= dist[i], speed[i] <= 10^5`

JavaScript

```javascript
const stin = (a) => a.sort((x, y) => x - y);
const eliminateMaximum = (dist, speed) => {
    let n = dist.length;
    let t = [];
    for (let i = 0; i < n; i++) t.push(dist[i] / speed[i]);
    // pr(t);
    stin(t);
    // pr(t);
    let pass = res = 0;
    for (const e of t) {
        if (e - pass <= 0) break;
        res++;
        pass++;
    }
    return res;
};
```

Custom Testcase | Use Example Testcases

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