3075. Maximize Happiness of Selected Children

Description

You are given an array `happiness` of length `n`, and a **positive** integer `k`.

There are `n` children standing in a queue, where the i^{th} child has **happiness value** `happiness[i]`. You want to select `k` children from these `n` children in `k` turns.

In each turn, when you select a child, the **happiness value** of all the children that have **not** been selected till now decreases by `1`. Note that the happiness value **cannot** become negative and gets decremented **only** if it is positive.

Return *the **maximum** sum of the happiness values of the selected children you can achieve by selecting* `k` *children*.

Example 1:

```
Input: happiness = [1,2,3], k = 2
Output: 4
Explanation: We can pick 2 children in the following way:
- Pick the child with the happiness value == 3. The happiness value of the remaining children becomes [0,1].
- Pick the child with the happiness value == 1. The happiness value of the remaining child becomes [0]. Note that the happiness value cannot become less than 0.
The sum of the happiness values of the selected children is 3 + 1 = 4.
```

Example 2:

```
Input: happiness = [1,1,1,1], k = 2
Output: 1
Explanation: We can pick 2 children in the following way:
- Pick any child with the happiness value == 1. The happiness value of the remaining children becomes [0,0,0].
- Pick the child with the happiness value == 0. The happiness value of the remaining child becomes [0,0].
The sum of the happiness values of the selected children is 1 + 0 = 1.
```

Example 3:

```
Input: happiness = [2,3,4,5], k = 1
Output: 5
Explanation: We can pick 1 child in the following way:
- Pick the child with the happiness value == 5. The happiness value of the remaining children becomes [1,2,3].
The sum of the happiness values of the selected children is 5.
```

Constraints:

- $1 <= n == \text{happiness.length} <= 2 * 10^{5}$
- $1 <= \text{happiness[i]} <= 10^{8}$
- `1 <= k <= n`