1231. Divide Chocolate Premium

Hard Topics Companies Hint

You have one chocolate bar that consists of some chunks. Each chunk has its own sweetness given by the array `sweetness`.

You want to share the chocolate with your `k` friends so you start cutting the chocolate bar into `k + 1` pieces using `k` cuts, each piece consists of some **consecutive** chunks.

Being generous, you will eat the piece with the **minimum total sweetness** and give the other pieces to your friends.

Find the **maximum total sweetness** of the piece you can get by cutting the chocolate bar optimally.

Example 1:

```
Input: sweetness = [1,2,3,4,5,6,7,8,9], k = 5
Output: 6
Explanation: You can divide the chocolate to [1,2,3], [4,5], [6], [7], [8], [9]
```

Example 2:

```
Input: sweetness = [5,6,7,8,9,1,2,3,4], k = 8
Output: 1
Explanation: There is only one way to cut the bar into 9 pieces.
```

Example 3:

```
Input: sweetness = [1,2,2,1,2,2,1,2,2], k = 2
Output: 5
Explanation: You can divide the chocolate to [1,2,2], [1,2,2], [1,2,2]
```

Constraints:

- `0 <= k < sweetness.length <= 10^4`
- `1 <= sweetness[i] <= 10^5`

Seen this question in a real interview before? 1/5

Yes No

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Hint 1

After dividing the array into K+1 sub-arrays, you will pick the sub-array with the minimum sum.

Hint 2

Divide the sub-array into K+1 sub-arrays such that the minimum sub-array sum is as maximum as possible.

Hint 3

Use binary search with greedy check.

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