Problem Leaderboard

Problem: Finding MK Average

Medium Takes 30 mins Max 3 submissions allowed

Statement

You are given two integers, `m` and `k`, and a stream of integers. Your task is to design and implement a data structure that efficiently calculates the **MK Average** for the stream.

To compute the MK Average, follow these steps:

1. **Stream length check:** If the stream contains fewer than `m` elements, return `-1` as the MK Average.
2. **Window selection:** Otherwise, copy the last `m` elements of the stream to a separate container and remove the smallest `k` elements and the largest `k` elements from the container.
3. **Average calculation:** Calculate the average of the remaining elements (rounded down to the nearest integer).

Implement the `MKAverage` class

- `MKAverage(int m, int k)`: Initializes the object with integers `m` and `k` and an empty stream.
- `void addElement(int num)`: Adds the integer `num` to the stream.
- `int calculateMKAverage()`: Returns the current MK Average for the stream as described above, or `-1` if the stream contains fewer than `m` elements.

Constraints:

- $3 <= m <= 10^5$
- $1 < k*2 < m$
- $1 <= num <= 10^5$
- 10^3 calls will be made to `addElement` and `calculateMKAverage`, at most.

Files

MKAverage.py Python

```python
class MKAverage(object):
    def __init__(self, m, k):
        # Write your code here
        pass

    def addElement(self, num):
        # Write your code here
        pass

    def calculateMKAverage(self):
        # Write your code here
        return -1;

```

Saved Run Submit

Test Cases Results