

2187. Minimum Time to Complete Trips

Description

You are given an array `time` where `time[i]` denotes the time taken by the i^{th} bus to complete **one trip**.

Each bus can make multiple trips **successively**; that is, the next trip can start **immediately after** completing the current trip. Also, each bus operates **independently**; that is, the trips of one bus do not influence the trips of any other bus.

You are also given an integer `totalTrips`, which denotes the number of trips all buses should make **in total**. Return *the minimum time required for all buses to complete at least `totalTrips` trips*.

Example 1:

Input: `time = [1,2,3]`, `totalTrips = 5`

Output: 3

Explanation:

- At time $t = 1$, the number of trips completed by each bus are `[1,0,0]`.
The total number of trips completed is $1 + 0 + 0 = 1$.
 - At time $t = 2$, the number of trips completed by each bus are `[2,1,0]`.
The total number of trips completed is $2 + 1 + 0 = 3$.
 - At time $t = 3$, the number of trips completed by each bus are `[3,1,1]`.
The total number of trips completed is $3 + 1 + 1 = 5$.
- So the minimum time needed for all buses to complete at least 5 trips is 3.

Example 2:

Input: `time = [2]`, `totalTrips = 1`

Output: 2

Explanation:

There is only one bus, and it will complete its first trip at $t = 2$.
So the minimum time needed to complete 1 trip is 2.

Constraints:

- $1 \leq \text{time.length} \leq 10^5$
- $1 \leq \text{time}[i], \text{totalTrips} \leq 10^7$

