

2073. Time Needed to Buy Tickets

Easy

Topics

Companies

Hint

There are n people in a line queuing to buy tickets, where the 0^{th} person is at the **front** of the line and the $(n - 1)^{\text{th}}$ person is at the **back** of the line.

You are given a **0-indexed** integer array `tickets` of length n where the number of tickets that the i^{th} person would like to buy is `tickets[i]`.

Each person takes **exactly 1 second** to buy a ticket. A person can only buy **1 ticket at a time** and has to go back to **the end** of the line (which happens **instantaneously**) in order to buy more tickets. If a person does not have any tickets left to buy, the person will **leave** the line.

Return the **time taken** for the person at position k (**0-indexed**) to finish buying tickets.

Example 1:

Input: `tickets = [2,3,2]`, `k = 2`

Output: 6

Explanation:

- In the first pass, everyone in the line buys a ticket and the line becomes `[1, 2, 1]`.
 - In the second pass, everyone in the line buys a ticket and the line becomes `[0, 1, 0]`.
- The person at position 2 has successfully bought 2 tickets and it took $3 + 3 = 6$ seconds.

FIFO:

First in
First out

2, 3, 2 $K=2$

index: 0 1 2

seconds = 0

↓

1 3 2 3 2 1
0 1 2 1 2 0

seconds = 0 + 1

∴ 1st index is

subtracted by 01 and
moved to last

⇓

2 2 1 2 1 2 2 0 1
1 2 0 2 0 1 ⇒ seconds = 2

⇓

1 1 2 1 2 1 0 1 2
2 0 1 0 1 2 ⇒ seconds = 3

0 2 1 2 1 0 0 1 2
0 1 2 1 2 0 ⇒ seconds = 4

1 1 0 1 0 1 1 2 0
1 2 0 2 0 1 ⇒ seconds = 5

0 0 1 $K=2$
2 0 1 ⇒ Index 2 has become 0.
stop the loop and print the output
seconds.

seconds = 6.