

Contest Duration: 2025-09-14(Sun) 22:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250914T2100&p1=248>) - 2025-09-14(Sun) 23:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250914T2240&p1=248>) (local time) (100 minutes)

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C - Lock All Doors

Editorial (/contests/abc423/tasks/abc423_c/editorial)



Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 300 points

Problem Statement

There are $N + 1$ rooms arranged in a line, numbered $0, 1, \dots, N$ in order.

Between the rooms, there are N doors numbered $1, 2, \dots, N$. Door i is between rooms $i - 1$ and i .

For each door, a value L_i representing the lock state is given. When $L_i = 0$, door i is unlocked, and when $L_i = 1$, door i is locked.

Takahashi is initially in room R , and can move between rooms $i - 1$ and i only when door i is unlocked. Also, he can perform a **switching operation** on door i only when he is in room $i - 1$ or room i . When a switching operation is performed on door i , if the door is unlocked, it becomes locked, and if it is locked, it becomes unlocked.

Find the minimum number of switching operations needed to make all doors locked.

Constraints

- $2 \leq N \leq 2 \times 10^5$
- $0 \leq R \leq N$
- $L_i \in \{0, 1\}$
- All input values are integers.

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Input

The input is given from Standard Input in the following format:

$$\begin{matrix} N & R \\ L_1 & L_2 & \dots & L_N \end{matrix}$$

Output

Output the answer.

Sample Input 1

Copy

```
6 3
1 0 0 1 0 0
```

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Sample Output 1

Copy

6

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Takahashi can make all doors locked with six switching operations by acting as follows:

- Move to room 2.
- Perform a switching operation on door 2 to lock door 2.
- Move to room 3.
- Perform a switching operation on door 4 to unlock door 4.
- Perform a switching operation on door 3 to lock door 3.
- Move to room 4.
- Perform a switching operation on door 4 to lock door 4.
- Move to room 5.
- Perform a switching operation on door 5 to lock door 5.
- Perform a switching operation on door 6 to lock door 6.

Sample Input 2

Copy

```
2 1
0 0
```

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Sample Output 2

Copy

2

Sample Input 3

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```
8 2
0 1 0 0 1 0 1 1
```

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Sample Output 3

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```
8
```

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