

Goodland is a country with a number of evenly spaced cities along a line. The distance between adjacent cities is **1** unit. There is an energy infrastructure project planning meeting, and the government needs to know the fewest number of power plants needed to provide electricity to the entire list of cities. Determine that number. If it cannot be done, return **-1**.

You are given a list of city data. Cities that may contain a power plant have been labeled **1**. Others not suitable for building a plant are labeled **0**. Given a distribution range of **k**, find the lowest number of plants that must be built such that all cities are served. The distribution range limits supply to cities where distance is **less than k**.

For example, you are given **k = 3** and your city data is **arr = [0, 1, 1, 1, 0, 0, 0]**. Each city is **1** unit distance from its neighbors, and we'll use **0** based indexing. We see there are **3** cities suitable for power plants, cities **1, 2** and **3**. If we build a power plant at **arr[2]**, it can serve **arr[0]** through **arr[4]** because those endpoints are at a distance of **2** and **2 < k**. To serve **arr[6]**, we would need to be able to build a plant in city **4, 5** or **6**. Since none of those is suitable, we must return **-1**. It cannot be done using the current distribution constraint.

Function Description

Complete the *pylons* function in the editor below. It should return an integer that represents the minimum number of plants required or -1 if it is not possible.

pylons has the following parameter(s):

- *k*: an integer that represents distribution range
- *arr*: an array of integers that represent suitability as a building site

Input Format

The first line contains two space-separated integers **n** and **k**, the number of cities in Goodland and the plants' range constant.

The second line contains **n** space-separated binary integers where each integer indicates suitability for building a plant.

Constraints

- $1 \leq k \leq n \leq 10^5$
- Each $arr[i] \in \{0, 1\}$.

Subtask

- $1 \leq k \leq n \leq 1000$ for **40%** of the maximum score.

Output Format

Print a single integer denoting the minimum number of plants that must be built so that all of Goodland's cities have electricity. If this is not possible for the given value of **k**, print **-1**.

Sample Input

```
6 2
0 1 1 1 1 0
```

Sample Output

```
2
```

Explanation

Cities **c[1]**, **c[2]**, **c[3]**, and **c[4]** are suitable for power plants. Each plant will have a range of **k = 2**. If we build in cities **2** cities, **c[1]** and **c[4]**, then all cities will have electricity.

