3037. Find Pattern in Infinite Stream II

Description

You are given a binary array `pattern` and an object `stream` of class `InfiniteStream` representing a **0-indexed** infinite stream of bits.

The class `InfiniteStream` contains the following function:

- `int next()`: Reads a **single** bit (which is either `0` or `1`) from the stream and returns it.

Return *the **first starting** index where the pattern matches the bits read from the stream*. For example, if the pattern is `[1, 0]`, the first match is the highlighted part in the stream `[0, 1, 0, 1, ...]`.

Example 1:

```
Input: stream = [1,1,1,0,1,1,1,...], pattern = [0,1]
Output: 3
Explanation: The first occurrence of the pattern [0,1] is highlighted in the stream [1,1,1, 0,1 ,...], which starts at index 3.
```

Example 2:

```
Input: stream = [0,0,0,0,...], pattern = [0]
Output: 0
Explanation: The first occurrence of the pattern [0] is highlighted in the stream [ 0 ,...], which starts at index 0.
```

Example 3:

```
Input: stream = [1,0,1,1,0,1,1,0,1,...], pattern = [1,1,0,1]
Output: 2
Explanation: The first occurrence of the pattern [1,1,0,1] is highlighted in the stream [1,0, 1,1,0,1 ,...], which starts at index 2.
```

Constraints:

- `1 <= pattern.length <= 10^4`
- `pattern` consists only of `0` and `1`.
- `stream` consists only of `0` and `1`.
- The input is generated such that the pattern's start index exists in the first `10^5` bits of the stream.