1757. Minimum Jumps to Reach Home

Difficulty : Medium

https://leetcode.com/problems/minimum-jumps-to-reach-home

A certain bug's home is on the x-axis at position `x`. Help them get there from position `0`.

The bug jumps according to the following rules:

- It can jump exactly `a` positions **forward** (to the right).
- It can jump exactly `b` positions **backward** (to the left).
- It cannot jump backward twice in a row.
- It cannot jump to any `forbidden` positions.

The bug may jump forward **beyond** its home, but it **cannot jump** to positions numbered with **negative** integers.

Given an array of integers `forbidden`, where `forbidden[i]` means that the bug cannot jump to the position `forbidden[i]`, and integers `a`, `b`, and `x`, return *the minimum number of jumps needed for the bug to reach its home*. If there is no possible sequence of jumps that lands the bug on position `x`, return `-1`.

Example 1:

```
Input: forbidden = [14,4,18,1,15], a = 3, b = 15, x = 9
Output: 3
Explanation: 3 jumps forward (0 -> 3 -> 6 -> 9) will get the bug home.
```

Example 2:

```
Input: forbidden = [8,3,16,6,12,20], a = 15, b = 13, x = 11
Output: -1
```

Example 3:

```
Input: forbidden = [1,6,2,14,5,17,4], a = 16, b = 9, x = 7
Output: 2
Explanation: One jump forward (0 -> 16) then one jump backward (16 -> 7) will get the bug home.
```

Constraints:

- `1 <= forbidden.length <= 1000`
- `1 <= a, b, forbidden[i] <= 2000`
- `0 <= x <= 2000`
- All the elements in `forbidden` are distinct.
- Position `x` is not forbidden.