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Description

Solution

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752. Open the Lock

Medium

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You have a lock in front of you with 4 circular wheels. Each wheel has 10 slots: '0', '1', '2', '3', '4', '5', '6', '7', '8', '9'. The wheels can rotate freely and wrap around: for example we can turn '9' to be '0', or '0' to be '9'. Each move consists of turning one wheel one slot.

The lock initially starts at '0000', a string representing the state of the 4 wheels.

You are given a list of `deadends` dead ends, meaning if the lock displays any of these codes, the wheels of the lock will stop turning and you will be unable to open it.

Given a `target` representing the value of the wheels that will unlock the lock, return the minimum total number of turns required to open the lock, or -1 if it is impossible.

**Example 1:**

**Input:** `deadends = ["0201","0101","0102","1212","2002"]`, `target = "0202"`  
**Output:** 6  
**Explanation:**  
A sequence of valid moves would be "0000" -> "1000" -> "1100" -> "1200" -> "1201" -> "1202" -> "0202".  
Note that a sequence like "0000" -> "0001" -> "0002" -> "0102" -> "0202" would be invalid, because the wheels of the lock become stuck after the display becomes the dead end "0102".

**Example 2:**

**Input:** `deadends = ["8888"]`, `target = "0009"`  
**Output:** 1  
**Explanation:** We can turn the last wheel in reverse to move from "0000" -> "0009".

**Example 3:**

**Input:** `deadends = ["8887","8889","8878","8898","8788","8988","7888","9888"]`, `target = "8888"`  
**Output:** -1  
**Explanation:** We cannot reach the target without getting stuck.

**Constraints:**

- 1 <= `deadends.length` <= 500
- `deadends[i].length` == 4
- `target.length` == 4
- `target` **will not be** in the list `deadends`.
- `target` and `deadends[i]` consist of digits only.

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```
class Solution {
    public int openLock(String[] deadends, String target) {
    }
}
```

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Problems

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1/1