

## 752. Open the Lock

Medium

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 are currently showing "0000". To turn the wheels, you can do the following: move the wheel one slot forward or one slot backward. For example, for the first wheel, you can move it from '0' to '9' or to '1'. 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. If you reach a dead end at any point during your attempts to unlock the lock, you cannot proceed. A code with 4 distinct digits is also considered a dead end.

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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Yes No

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