

# 788. Rotated Digits

## Description

An integer `x` is a **good** if after rotating each digit individually by 180 degrees, we get a valid number that is different from `x`. Each digit must be rotated - we cannot choose to leave it alone.

A number is valid if each digit remains a digit after rotation. For example:

- `0`, `1`, and `8` rotate to themselves,
- `2` and `5` rotate to each other (in this case they are rotated in a different direction, in other words, `2` or `5` gets mirrored),
- `6` and `9` rotate to each other, and
- the rest of the numbers do not rotate to any other number and become invalid.

Given an integer `n`, return *the number of good integers in the range* `[1, n]`.

### Example 1:

**Input:** `n = 10`  
**Output:** `4`  
**Explanation:** There are four good numbers in the range `[1, 10]` : `2`, `5`, `6`, `9`.  
Note that `1` and `10` are not good numbers, since they remain unchanged after rotating.

### Example 2:

**Input:** `n = 1`  
**Output:** `0`

### Example 3:

**Input:** `n = 2`  
**Output:** `1`

### Constraints:

- `1 <= n <= 104`

