Given a positive integer *n* and you can do operations as follow:

1. If *n* is even, replace *n* with *n*/2.
2. If *n* is odd, you can replace *n* with either *n* + 1 or *n* - 1.

What is the minimum number of replacements needed for *n* to become 1?

**Example 1:**

**Input:**

8

**Output:**

3

**Explanation:**

8 -> 4 -> 2 -> 1

**Example 2:**

**Input:**

7

**Output:**

4

**Explanation:**

7 -> 8 -> 4 -> 2 -> 1

or

7 -> 6 -> 3 -> 2 -> 1