

## Happy Number - LeetCode

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## 202. Happy Number

Write an algorithm to determine if a number `n` is happy.

A **happy number** is a number defined by the following process:

- Starting with any positive integer, replace the number by the sum of the squares of its digits.
- Repeat the process until the number equals 1 (where it will stay), or it **loops endlessly in a cycle** which does not include 1.
- Those numbers for which this process **ends in 1** are happy.

Return `true` if `n` is a happy number, and `false` if not.

### Example 1:

**Input:** `n = 19`

**Output:** `true`

**Explanation:**

$$1^2 + 9^2 = 82$$

$$8^2 + 2^2 = 68$$

$$6^2 + 8^2 = 100$$

$$1^2 + 0^2 + 0^2 = 1$$

### Example 2:

**Input:** `n = 2`

**Output:** `false`

### Constraints:

- $1 \leq n \leq 2^{31} - 1$