

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:

- $1 \leq n \leq 231 - 1$