

202. Happy Number

Description

Hints

Submissions

Discuss

Solution

Pick One

Write an algorithm to determine if a number 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, and 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 numbers.

Example:

```
Input: 19
Output: true
Explanation:
12 + 92 = 82
82 + 22 = 68
62 + 82 = 100
12 + 02 + 02 = 1
```

Seen this question in a real interview before?



```
public class L202 {

    public boolean isHappy(int n) {

        //用HashSet记录下来出现的数字，看是不是陷入循环中，如果存在，就代表陷入循环了
        HashSet<Integer> hashSet = new HashSet<>();
        hashSet.add(n);

        while(n != 1) {
            String tmp = new String(n+"");
            int sum = 0;
            for(int i = 0; i < tmp.length(); i++) {
                char c = tmp.charAt(i);
                sum += Math.pow(c - '0', 2);
            }
            //陷入循环，代表不是happy numbers
            if(hashSet.contains(sum)) {
                return false;
            }else {
                hashSet.add(sum);
            }
            n = sum;
        }
        return true;
    }

    public static void main(String [] args) {
        System.out.println(new L202().isHappy(19));
    }
}
```