263 Ugly Number

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Question：

Write a program to check whether a given number is an ugly number.

Ugly numbers are positive numbers whose prime factors only include 2, 3, 5. For example, 6, 8 are ugly while 14 is not ugly since it includes another prime factor 7.

Note:

1. 1 is typically treated as an ugly number.
2. Input is within the 32-bit signed integer range.

来自 <https://leetcode.com/problems/ugly-number/description/>

编写程序判断给定的数是否为丑数。

丑数就是只包含质因子 2，3，5 的正整数。例如， 6，8 是丑数，而 14 不是，因为它包含了另外一个质因子 7。

注意：

1. 1 也可以被当做丑数。
2. 输入不会超过32位整数的范围。

Solution for Python3:

```python
class Solution1:
    def isUgly(self, num):
        """
        :type num: int
        :rtype: bool
        """
        pre = None
        while pre != num:
            pre = num
            if not num % 5:
                num //= 5
            if not num % 3:
                num //= 3
            if not num % 2:
                num //= 2
        return num == 1

class Solution2:
    def isUgly(self, num):
        """
        :type num: int
        :rtype: bool
        """
        for i in 2, 3, 5:
            while num % i == 0 < num:
                num //= i
        return num == 1
```

Solution for C++:

```cpp
class Solution1 {
public:
```

```cpp
    bool isUgly(int num) {
        int pre = 1;
        while (pre != num) {
            pre = num;
            if (num % 5 == 0)
                num /= 5;
            if (num % 3 == 0)
                num /= 3;
            if (num % 2 == 0)
                num /= 2;
        }
        if (num == 1)
            return true;
        return false;
    }
};


class Solution2 {
public:
    bool isUgly(int num) {
        for (int i = 2; i < 6 && num; i++)
            while (num % i == 0)
                num /= i;
        return num == 1;
    }
};
```