

367 Valid Perfect Square

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Question:

Given a positive integer *num*, write a function which returns True if *num* is a perfect square else False.

Note: Do not use any built-in library function such as sqrt.

Example 1:

Input: 16

Returns: True

Example 2:

Input: 14

Returns: False

来自 <<https://leetcode.com/problems/valid-perfect-square/description/>>

给定一个正整数 *num*，编写一个函数，如果 *num* 是一个完全平方数，则返回 True，否则返回 False。

注意：不要使用任何内置的库函数，如 sqrt。

Solution for Python3:

```
1 class Solution:
2     def isPerfectSquare(self, num):
3         """
4         :type num: int
5         :rtype: bool
6         """
7         x = num
8         while x > num // x:
9             x = (x + num // x) >> 1
10        return x * x == num
```

Solution for C++:

```
1 class Solution {
2 public:
3     bool isPerfectSquare(int num) {
4         int x = num;
5         while (x > num / x) {
6             x = (x + num / x) >> 1;
7         }
8         return x * x == num;
9     }
10 };
```