

You are a product manager and currently leading a team to develop a new product. Unfortunately, the latest version of your product fails the quality check. Since each version is developed based on the previous version, all the versions after a bad version are also bad.

Suppose you have `n` versions `[1, 2, ..., n]` and you want to find out the first bad one, which causes all the following ones to be bad.

You are given an API `bool isBadVersion(version)` which returns whether `version` is bad. Implement a function to find the first bad version. You should minimize the number of calls to the API.

Example 1:

Input: `n = 5, bad = 4`
Output: `4`
Explanation:
call `isBadVersion(3)` -> `false`
call `isBadVersion(5)` -> `true`
call `isBadVersion(4)` -> `true`
Then 4 is the first bad version.

Example 2:

Input: `n = 1, bad = 1`
Output: `1`