69. Sqrt(x)

Easy   ◇ Topics   🔒 Companies   ◎ Hint

Given a non-negative integer x, return *the square root of* x *rounded down to the nearest integer*. The returned integer should be **non-negative** as well.

You **must not use** any built-in exponent function or operator.

- For example, do not use `pow(x, 0.5)` in c++ or `x ** 0.5` in python.

Example 1:

```
Input: x = 4
Output: 2
Explanation: The square root of 4 is 2, so we return 2.
```

Example 2:

```
Input: x = 8
Output: 2
Explanation: The square root of 8 is 2.82842... and since we round it
```

Code
```
class Solution {
    func mySqrt(_ x: Int) -> Int {
        if(x < 2) {
            return x
        }

        var left = 1
        var right  = x
        var mid: Int = -1
        while(left<=right) {
            mid = left + (right - left) / 2
            let tmp = mid*mid
            if(tmp == x){
                return mid
            }
```

```
            if(tmp>x) {
                right = mid - 1
            } else {
                left = mid + 1
            }
        }

        return right
    }
}
```