

x 的平方根

实现 `int sqrt(int x)` 函数。

计算并返回 x 的平方根。

x 保证是一个非负整数。

<https://leetcode-cn.com/problems/sqrtx/description/>

```
public int mySqrt(int x) {  
    if (x == 0) {  
        return 0;  
    }  
    if (x < 0) {  
        return -1;  
    }  
    long start = 1;  
    long end = x;  
    while (start + 1 < end) {  
        long mid = start + (end - start) / 2;  
        if (mid * mid == x) {  
            return (int) mid;  
        }  
        else if (mid * mid < x){  
            start = mid;  
        }  
        else {  
            end = mid;  
        }  
    }  
    if (end * end <= x){  
        return (int) end;  
    }  
    return (int) start;  
}
```

```
public int mySqrt(int x) {  
    if (x == 0) {  
        return 0;  
    }  
    if (x < 0) {  
        return -1;  
    }  
    int start = 1;  
    int end = x;  
    while (start + 1 < end) {  
        int mid = start + (end - start) / 2;  
        if (mid == x / mid) {  
            return mid;  
        }  
        else if (mid < x / mid ){  
            start = mid;  
        }  
        else {  
            end = mid;  
        }  
    }  
    if (end <= x / end){  
        return end;  
    }  
    return start;  
}
```