Leetcode Problem 1. (Easy)

Sqrt(x)

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 down to the nearest integer, 2 is returned.

**Constraints:**

* 0 <= x <= 231 - 1

Link: <https://leetcode.com/problems/sqrtx/>

class Solution {

public int mySqrt(int x) {

if (x == 0 || x == 1) {

return x;

}

int left = 1;

int right = x;

int result = 0;

while (left <= right) {

int mid = left + (right - left) / 2;

if (mid <= x / mid) {

left = mid + 1;

result = mid;

} else {

right = mid - 1;

}

}

return result;

}

}

