[LeetCode](https://leetcode.com/problems/bitwise-and-of-numbers-range/submissions/1182000139?envType=daily-question&envId=2024-02-21)

<https://github.com/AdityaKonda6/-50DaysOfCoding>

<https://leetcode.com/problems/bitwise-and-of-numbers-range/submissions/1182007761/?envType=daily-question&envId=2024-02-21>

<https://www.linkedin.com/in/aditya-adi-konda/>

Day 2 of **#50dayscodingchallenge**:

**#leetcode** **#leetcodechallenge** **#leetcodestreak** **#leetcode2024** **#leetcode50day**

Just kicked off my coding journey with a fascinating problem - "Successfully solved LeetCode Problem 201 - "Bitwise AND of Numbers Range"!

✨ Task: Given integers left and right representing the range [left, right], the goal was to return the bitwise AND of all numbers in this range, inclusive.

Example Cases:

   - Input: left = 5, right = 7

     Output: 4

   - Input: left = 0, right = 0

     Output: 0

   - Input: left = 1, right = 2147483647

     Output: 0

Excited about the progress and challenges ahead!

Make Sure You Follow My GitHub For Solutions:- https://github.com/AdityaKonda6/-50DaysOfCoding

**#coding** **#algorithm** **#programming** **#challengeaccepted** **#day2** **#codingcommunity** **#50daysofcodingchallenge** **#java** **#python**

Happy coding!

**Solution:-**

class Solution {

    public int rangeBitwiseAnd(int left, int right) {

        int shift = 0;

        // Find the common prefix

        while (left < right) {

            left >>= 1;

            right >>= 1;

            shift++;

        }

        // Fill the remaining bits with zeros

        return left << shift;

    }

    public static void main(String[] args) {

        Solution solution = new Solution();

        // Example 1

        System.out.println(solution.rangeBitwiseAnd(5, 7)); // Output: 4

        // Example 2

        System.out.println(solution.rangeBitwiseAnd(0, 0)); // Output: 0

        // Example 3

        System.out.println(solution.rangeBitwiseAnd(1, 2147483647)); // Output: 0

    }

}

