# 5620. Concatenation of Consecutive Binary Numbers

My Submissions (/contest/weekly-contest-218/problems/concatenation-of-consecutive-binary-numbers/submissions/)

Back to Contest (/contest/weekly-contest-218/)

Given an integer `n`, return *the* ***decimal value*** *of the binary string formed by concatenating the binary representations of* `1` *to* `n` *in order,* ***modulo*** $10^9 + 7$.

| | |
|---|---|
| User Accepted: | 0 |
| User Tried: | 0 |
| Total Accepted: | 0 |
| Total Submissions: | 0 |
| Difficulty: | Medium |

**Example 1:**

```
Input: n = 1
Output: 1
Explanation: "1" in binary corresponds to the decimal value 1.
```

**Example 2:**

```
Input: n = 3
Output: 27
Explanation: In binary, 1, 2, and 3 corresponds to "1", "10", and "11".
After concatenating them, we have "11011", which corresponds to the decimal value 27.
```

**Example 3:**

```
Input: n = 12
Output: 505379714
Explanation: The concatenation results in "110111001011101111000100110101010111100".
The decimal value of that is 118505380540.
After modulo 10^9 + 7, the result is 505379714.
```

**Constraints:**

- $1 <= n <= 10^5$

JavaScript

```
/**
 * @param {number} n
 * @return {number}
 */
var concatenatedBinary = function(n) {

};
```

**Custom Testcase** Use Example Testcases