

190. Reverse Bits

Easy 436 128 Favorite Share

Reverse bits of a given 32 bits unsigned integer.

Example 1:

Input: 00000010100101000001111010011100

Output: 00111001011110000010100101000000

Explanation: The input binary string 00000010100101000001111010011100 represents the unsigned integer 43261596, so return 964176192 which its binary representation is 00111001011110000010100101000000.

Example 2:

Input: 111111111111111111111111111101

Output: 101111111111111111111111111111

Explanation: The input binary string 111111111111111111111111111101 represents the unsigned integer 4294967293, so return 3221225471 which its binary representation is 10101111110010110010011101101001.

```
1 package com.leetcode;
2 /*
3  * 思想：做位运算，那么依次将原数从左到右进行判断，取出移动的位是0还是1，然后加到反转结果上
4  * 并且反转结果是从右到左移动一位，循环控制的次数为32次，因为是32位整数
5  * 其中涉及到左移、右移，&运算的规则是相同的位上是1，否则结果为0，然后补在结果上
6  */
7 public class L190 {
8     public int reverseBits(int n) {
9         int result = 0;
10        for(int i = 0; i < 32; i++) {
11            if((n & 1) == 1) {
12                result = (result << 1) + 1;
13            }else {
14                result = result << 1;
15            }
16            n = n >> 1;
17        }
18        return result;
19    }
20 }
21
```