Introduction to competitive Programming

Assingment – 2

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B.Tech Cse(3rd Yr)

Q1.

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338. Counting Bits

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Given an integer n, return an array and already n + 1 such that for each is (n = 1 = n) and [i] is the number of 1's in the binary representation of 1.

Example 1:

Input: n = 2
Output: (0,1,1)
Explanation:
0 => 0
1 => 1
2 => 10

Example 2:

Input: n = 5
Output: (0,1,1,2,1,2)
Explanation:
0 => 0
1 => 1
2 => 10

3 => 1
4 >> 10
5 => 10
6 => 0
1 => 1
1 => 1
2 => 10
1 => 1
2 => 10
3 => 11
4 >> 100
5 => 101
```

Solution

Output





Q2.

```
Example 1:

Input: nums = [3, 0, 1]

Output: 2

Example 2:

Input: nums = [0, 1]

Output: 2

Example 3:

Input: nums = [0, 1]

Output: 2

Example 2:

Input: nums = [0, 1]

Output: 2:

Explanation:

n = 3 since there are 3 numbers, so all numbers are in the range [0, 3]. 2 is the missing number in the range since it does not appear in nums.

Example 2:

Input: nums = [0, 1]

Output: 2

Explanation:

n = 2 since there are 2 numbers, so all numbers are in the range [0, 2]. 2 is the missing number in the range since it does not appear in nums.
```

Solution

Output

```
Accepted Runtime: 0 ms

Case 1 Case 2 Case 3

Input

Dutput

Output

Expected

2
```

```
Input

nums =

[9,6,4,2,3,5,7,0,1]

Output

8

Expected

8
```

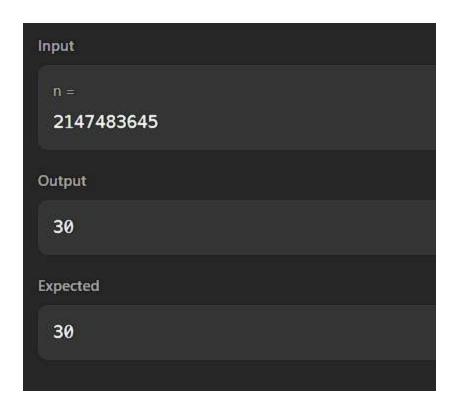
Q3.



Solution

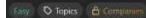
Output





Q4.

190. Reverse Bits



Reverse bits of a given 32 bits unsigned integer.

Note:

- Note that in some languages, such as Java, there is no unsigned integer type. In this case, both input and output will be given as a signed integer type. They should not affect your implementation, as the integer's internal binary representation is the same, whether it is signed or unsigned.
- In Java, the compiler represents the signed integers using 2's complement notation. Therefore, in Example 2 above, the input represents the signed integer =3 and the output represents the signed integer =1073741825.

Example 1:

Input: n = 0000000101001010000001111010011100

Output: 964176192 (00111001011110000010100101000000)

Explanation: The input binary string 00000010100101000001111010011100 represents the unsigned integer 43261596, so return 964176192 which its binary representation is 0011100101111000001010010101000000.

Example 2: