Topics to discuss

Bit manipulation Problem - 11

Prime Number of set bits in binary Representation.

762. Prime Number of Set Bits in Binary Representation

Easy | Topics | Companies | Hint

Given two integers `left` and `right`, return *the **count** of numbers in the **inclusive** range* `[left, right]` *having a **prime number of set bits** in their binary representation*.

Recall that the **number of set bits** an integer has is the number of `1`'s present when written in binary.

- For example, `21` written in binary is `10101`, which has `3` set bits.

[6, 10]
[6, 7, 8, 9, 10]

Example 1:

Input: left = 6, right = 10
Output: 4
Explanation:
6 -> 110 (2 set bits, 2 is prime)
7 -> 111 (3 set bits, 3 is prime)
8 -> 1000 (1 set bit, 1 is not prime)
9 -> 1001 (2 set bits, 2 is prime)
10 -> 1010 (2 set bits, 2 is prime)
4 numbers have a prime number of set bits.

```
class solution {
    pubic int countPrimeSetBits (int left , int right) {
        int Primecount = 0;
        for (int i= left ; i<= right ; i++){
            int setBitCount = Integer. bitCount (i);
            if (isPrime (setBitCount)) {
                PrimeCount ++;
            }
        }
        return primeCount ;
    }
    public boolean isPrime (int n) {
        if (n<=1) return false;
        for (int i=2 ; i* i <= n ; i++) {
            if (n%. i == 0)
                return false
        }
        return true;
    }
}
```

PC = 0 L = 6, R = 10

for ① i = 6

SBC = Integer. bitCount (6)

SBC = 2

if isPrime (2)

PC = 1

② i = 7

SBC = 3

if isPrime (3)

PC = 2

Follow Now

Start Practicing

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