Topics to discuss

Bit manipulation   Problem - 2

• Count the no. of set bit or 1-bit.

LeetCode

191. Number of 1 Bits

Easy   ◇ Topics   🔒 Companies

Write a function that takes the binary representation of an unsigned integer and returns the number of '1' bits it has (also known as the Hamming weight).

Note:

- Note that in some languages, such as Java, there is no unsigned integer type. In this case, the input will be given as a signed integer type. It should not aff 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 3**, the input represents the signed integer. -3.

Example 1:

```
Input: n = 00000000000000000000000000001011
Output: 3
Explanation: The input binary string 00000000000000000000000000001011 has a total of three '1' bits.
```
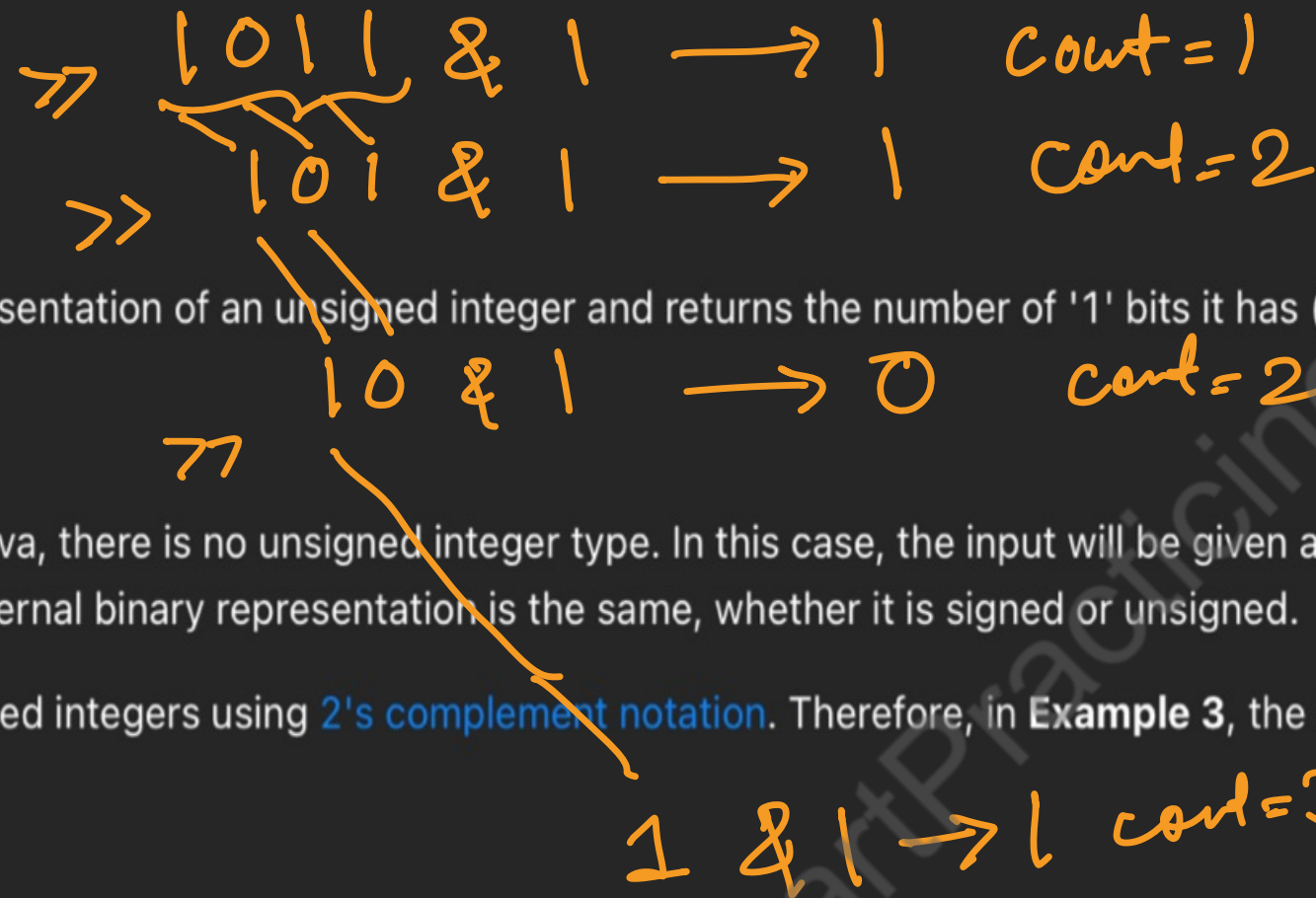
Example 2:

```
Input: n = 00000000000000000000000010000000
Output: 1
Explanation: The input binary string 00000000000000000000000010000000 has a total of one '1' bit.
```

Handwritten annotations:

→ 1011 & 1 → 1   cout = 1
>> 101 & 1 → 1   cont = 2
>> 10 & 1 → 0   cont = 2
1 & 1 → 1   cont = 3

```
static int solution (int n) {
    int count = 0;
    for (int i = 0; i < 32; i++) {
        if ((n & 1) == 1)
            count++;
        n = n >> 1;
    }
    return count;
}
```

Follow Now

Start Practicing

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