

## 231 2的幂

Label: 位运算

给定一个整数，编写一个函数来判断它是否是 2 的幂次方

输入: 1

输出: true

输入: 218

输出: false

- API转字符串

```
class Solution {
    public boolean isPowerOfTwo(int n) {
        if (n <= 0) {
            return false;
        }

        String bStr = Integer.toBinaryString(n);
        for (char a : Arrays.copyOfRange(bStr.toCharArray(), 1, bStr.length())){
            if (a == '1') {
                return false;
            }
        }
        return true;
    }
}
```

- $n \& n-1 == 0$

```
class Solution {
    public boolean isPowerOfTwo(int n) {
        if (n <= 0)
            return false;
        if((n & n-1) == 0)
            return true;
        else
            return false;
    }
}
```

- $n \& -n == n$

```
class solution {
    public boolean isPowerOfTwo(int n) {
        if (n == 0) return false;
        long x = (long) n;
        return (x & (-x)) == x;
    }
}
```