



链滴

数值的整数次方

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原文链接: <https://ld246.com/article/1518782743352>

来源网站: [链滴](#)

许可协议: [署名-相同方式共享 4.0 国际 \(CC BY-SA 4.0\)](#)

题目描述

给定一个double类型的浮点数base和int类型的整数exponent。求base的exponent次方。

解题思路

- base = 0, 返回0;
- exponent = 0, 返回1;
- exponent = -1, 返回1/base;
- exponent是偶数, $f(base, exponent) = f(base, exponent/2) * (base, exponent/2);$
- exponent是奇数, $f(base, exponent) = base * f(base, (exponent-1)/2) * f(base, (exponent-1)/2)$

时间复杂度O(log(n))

```
public class Solution {  
    public double Power(double base, int exponent) {  
        if (base == 0)  
            return 0;  
        if (exponent == 0)  
            return 1;  
        if (exponent == -1)  
            return 1/base;  
        if (Math.abs(exponent) % 2 == 0)  
            return Power(base, exponent/2)*Power(base, exponent/2);  
        else  
            return base*Power(base, (exponent-1)/2)*Power(base, (exponent-1)/2);  
    }  
}
```