

尾递归示例1 – 阶乘

■ 求 n 的阶乘 $1*2*3*...*(n-1)*n$ ($n>0$)

```
int factorial(int n) {  
    if (n <= 1) return n;  
    return n * factorial(n - 1);  
}
```

```
int factorial(int n) {  
    return factorial(n, 1);  
}  
  
/**  
 * @param result 从大到小累乘的结果  
 */  
int factorial(int n, int result) {  
    if (n <= 1) return result;  
    return factorial(n - 1, n * result);  
}
```

尾递归示例2 – 斐波那契数列

```
int fib(int n) {  
    if (n <= 2) return 1;  
    return fib(n - 1) + fib(n - 2);  
}
```

```
int fib(int n) {  
    return fib(n, 1, 1);  
}  
  
public int fib(int n, int first, int second) {  
    if(n <= 1) return first;  
    return fib(n - 1, second, first + second);  
}
```