

例题

(1)

```
int fib(int n) {  
    if (n <= 0) return 0;  
    else if (n == 1) return 1;  
    return fib(n - 1) + fib(n - 2);  
}
```

(2)

```
void allFib(int n) {  
    for (int i = 0; i < n; i++) {  
        System.out.println(i + ": " + fib(i));  
    }  
}  
  
int fib(int n) {  
    if (n <= 0) return 0;  
    else if (n == 1) return 1;  
    return fib(n - 1) + fib(n - 2);  
}
```

(3)

```
void allFib(int n) {  
    int[] memo = new int[n + 1];  
    for (int i = 0; i < n; i++) {  
        System.out.println(i + ": " + fib(i, memo));  
    }  
}  
  
int fib(int n) {  
    if (n <= 0) return 0;  
    else if (n == 1) return 1;  
    else if (memo[n] > 0) return memo[n];  
  
    memo[n] = fib(n - 1, memo) + fib(n - 2, memo);  
    return memo[n];  
}
```

时间复杂度计算 - 主定理

- $T(n) = aT\left(\frac{n}{b}\right) + n^c$
- 比较 $\log_b a$ 与 c 的大小
- *if $\log_b a > c: T(n) = n \log_b a$*
- *if $\log_b a = c: T(n) = n^c \log n$*
- *if $\log_b a < c: T(n) = n^c$*