

# Grimoire's Standard Code Library<sup>\*</sup>

*Shanghai Jiao Tong University*

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<sup>\*</sup> <https://github.com/kzoacn/Grimoire>



<b>1</b>		<b>5</b>
1.1	$O(n^2 \log n)$	5
1.2		6
1.3		7
1.4		8
1.5		9
<b>2</b>		<b>11</b>
2.1		11
2.2		11
2.3		11
<b>3</b>		<b>13</b>
3.1		13
3.2		13
3.3		15
3.4		17
3.5		21
3.6		22
3.7		27
<b>4</b>		<b>31</b>
4.1	Manacher	31
<b>5</b>		<b>33</b>
5.1		33
5.2		34



# Chapter 1

## $O(n^2 \log n)$ 求线性递推数列第 $n$ 项

Given  $a_0, a_1, \dots, a_{m-1}$   
 $a_n = c_0 * a_{n-m} + \dots + c_{m-1} * a_0$   
 $a_0$  is the  $n$ th element,  $\dots$ ,  $a_{m-1}$  is the  $n + m - 1$ th element

## 闪电数论变换与魔力 CRT

### 多项式求逆

Given polynomial  $a$  and  $n$ ,  $b$  is the polynomial such that  $a * b \equiv 1 \pmod{x^n}$

### 多项式除法

$d$  is quotient and  $r$  is remainder

### 多项式取指数取对数

Given polynomial  $a$  and  $n$ ,  $b$  is the polynomial such that  $b \equiv e^a \pmod{x^n}$  or  $b \equiv \ln a \pmod{x^n}$



# Chapter 2

## 大整数相乘取模

## 线段下整点

solve for  $\sum_{i=0}^{n-1} \lfloor \frac{a+bi}{m} \rfloor$ ,  $n, m, a, b > 0$

## 中国剩余定理

first is remainder, second is module





# Chapter 3

图论基础

闪电二分图匹配

一般图匹配

一般最大权匹配

无向图最小割

最大带权带花树

必经点 dominator tree



# Chapter 4

## Manacher



# Chapter 5

无敌的读入优化

真正释放 STL 内存