

ACM Template

dennis wuzj Cristinaaaa

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Contents

1	Base algorithm	1
1.1	Bisection method	1
2	Graph Theory and Network Algorithms	3
3	Algebraic Algorithms	5
4	Number Theory	7
5	Data structure	9
6	Computational geometry	11
7	Classic Problems	13

Chapter 1

Base algorithm

1.1 Bisection method

search for $\min(b), b \in \{a[k] \geq x\}$

```
1 while(l<r){
2     int mid = (l + r) >> 1;
3     if(a[mid] >= x) r = mid;
4     else l = mid + 1;
5 }
6 return a[l];
```

search for $\max(b), b \in \{a[k] \leq x\}$

```
1 while(l<r){
2     int mid = (l + r + 1) >> 1;
3     if(a[mid] <= x) l = mid;
4     else r = mid - 1;
5 }
6 return a[l];
```


Chapter 2

Graph Theory and Network Algorithms

Chapter 3

Algebraic Algorithms

Chapter 4

Number Theory

Chapter 5

Data structure

Chapter 6

Computational geometry

Chapter 7

Classic Problems