

ACM Template

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July 26, 2019

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Chapter 1

Base algorithm

1.1 Bisection method

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

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

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

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


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