ACM Template

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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