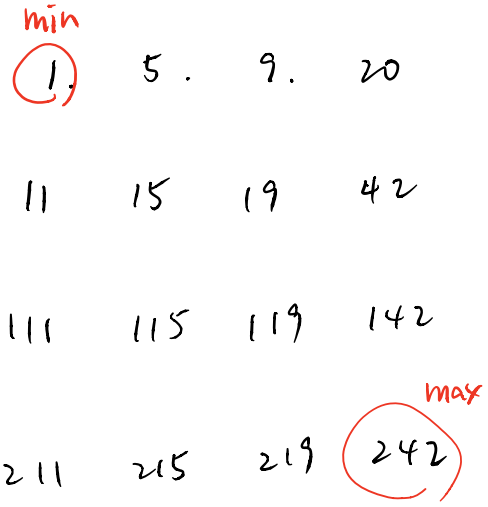
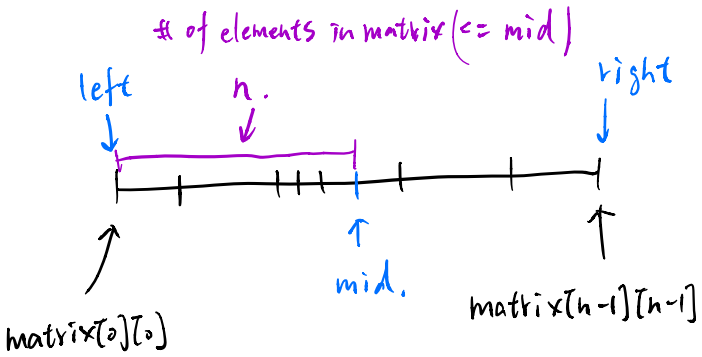
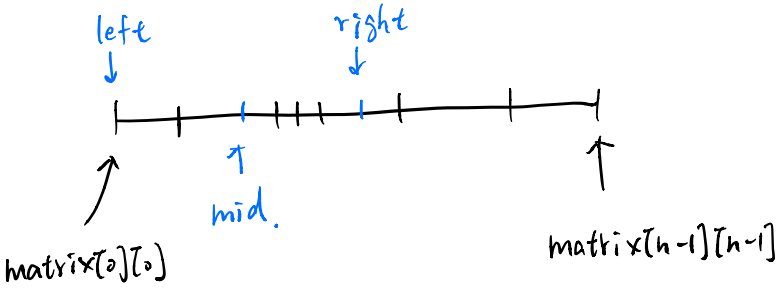


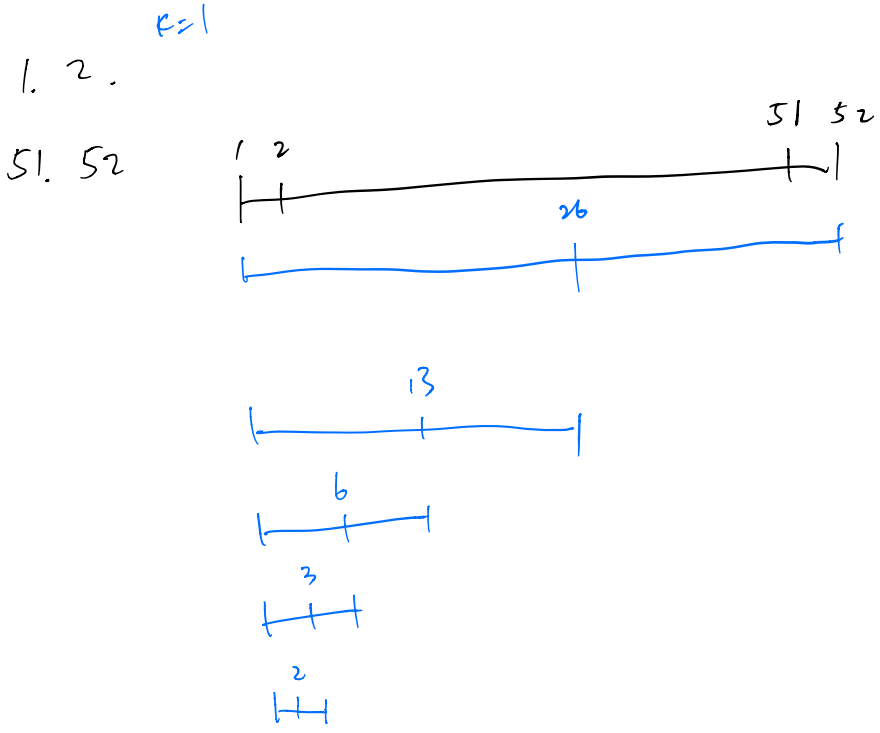
- Use binary search to search between min and max ①
  - for each iteration, we count how many elements that is smaller or equal to mid.

```
if(n<k){
  move to a bigger mid
}else{
  move to a smaller mid
}
```

① We can use range search for binary search.







	0	1	2	3
0	1.	5.	9.	20
1	11	15	19	42
2	111	115	119	142
3	211	215	219	242

count(114) ⇒ 4 + 4 + 1 + 0.

- Iterate over rows.
  - for each row, we start from max column and keep seaching until we find element that is <= mid.
- ∵ row and column are sorted, if matrix[i][j] <= mid. matrix[i][j'] is also <=mid for j' < j