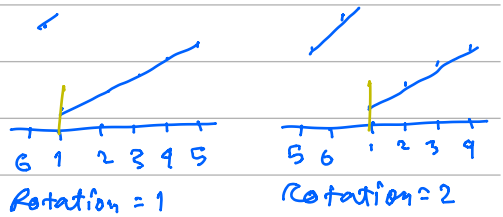
Binary Search

① Binary Search
- ↳ Order Agnostic BS (check first if arr[0] > arr[n-1])
- ↳ First & last Occurance
- ↳ Count no. of Occurance

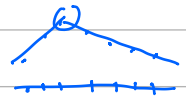
- ↳ floor / ceil of element
- ↳ Next letter.
- ↳ Index of last one in Sorted array

② Number of times array is rotated (minimum element's position)



- ↳ find element in rotated sorted arr.

③ Bitonic Array (monotonically increasing then decreasing) one peak



- ↳ find maximum element
- ↳ Search in Bitonic Array : Normal BS in (left - peak) & (peak - end)

④ Monotonic boolean function
- ↳ Allocate minimum number of pages.

⑤ Miscellineous
- ↳ Search in nearly sorted array. element[i] can be in either i-1, i or i+1 position
- ↳ Find position of an element in ∞ array. end = end*2
- ↳ Minimum Difference from a key in a sorted Array.

Key = 12 arr: 2 3 8 10 15 ans = min(2,3) = 2

→ Search in row wise column wise sorted matrix (not binary search)

→ Find the element in Sorted array which appears only once.