

Common Problem Statements:

- There are two sorted arrays, A and B of size n each. Write an algorithm of $O(\log n)$ complexity, which will find the median of the array after merging the two arrays.
- Given a sorted array find out how many times does x occur in A.
- Given a real number x, find out its cubic root.
- Let A be a sorted array with distinct elements. A is rotated k positions to the right (k is unknown). Find out k.
- Given an array of N distinct values in ascending order, determine whether a given integer is in the array. You may use only additions and subtractions and a constant amount of extra memory.
- Player A chooses a secret number n. Player B can guess a number x and A replies how does x compare to n (equal, larger, smaller). What's an efficient strategy for B to guess n.
- Implement auto-complete suggestions.
- Find the peak element.
- Count frequency of an element.

References & Problems:

- <https://www.codementor.io/rishabhdaal/solving-problems-binary-search-interview-questions-du1089cq6>
- <https://www.weheartswift.com/binary-search-applications/>
- <https://www.hackerearth.com/practice/notes/power-of-binary-search/>
- <http://qa.geeksforgeeks.org/3774/minimum-time-to-paint-all-the-boards-google>
- <http://qa.geeksforgeeks.org/3766/allocate-the-minimum-number-of-pages-to-each-student-google>
- <https://medium.com/@codingfreak/binary-search-practice-problems-4c856cd9f26c>
- <https://www.spoj.com/problems/tag/binary-search>