Search in a Rotated Sorted Array

1. The idea is to find the pivot point, divide the array in two sub-arrays and perform binary search.
2. The main idea for finding pivot is – for a sorted (in increasing order) and pivoted array, pivot element is the only element for which next element to it is smaller than it.
3. Using the above statement and binary search pivot can be found.
4. After the pivot is found out divide the array in two sub-arrays.
5. Now the individual sub – arrays are sorted so the element can be searched using Binary Search.

Complexity Analysis:

- **Time Complexity:** O(log n).
  Binary Search requires log n comparisons to find the element. So time complexity is O(log n).
- **Space Complexity:**O(1), No extra space is required.