**Statement:**

1. **Define a Function:**

Create a function findRotationIndex(arr, left, right) to recursively search for the rotation index.

**Base Case:**

* If the subarray has only one element, return its index since it is the minimum.

**Check if Subarray is Already Sorted:**

* If arr[left] <= arr[right]
* it means the array segment is already sorted. In this case, arr[left] is the smallest element, and its index is the rotation index.

**Calculate the Middle Index:**

* Compute mid = left + (right - left) / 2.

**Compare Middle with its Neighbors:**

* If arr[mid] > arr[mid + 1], then mid + 1 is the rotation index (smallest element).
* If arr[mid] < arr[mid - 1], then mid is the rotation index (smallest element).

**Decide Which Side to Search:**

* If arr[mid] >= arr[left], the left part is sorted, so search the right half.
* Otherwise, search the left half.