Assignment-8

Performing binary search on a sorted and rotated array, such as a circular queue, requires a modified binary search approach. Here's how you can perform binary search on a circular queue:

1. **Find the Pivot Point**:
    - Since the array is sorted but rotated, we need to find the pivot point where the rotation occurred. This pivot point divides the array into two sorted subarrays.
    - Use a modified binary search algorithm to find the pivot point. The pivot point is where the element is smaller than its previous element. Once found, it indicates the rotation point.
2. **Perform Binary Search**:
    - After finding the pivot point, we have two sorted subarrays. We can then perform regular binary search in one of the sorted subarrays based on the target element.
    - Adjust the indices of the binary search based on whether the target element lies in the left or right subarray.
3. **Handle Circular Nature**:
    - Since the queue is circular, we need to adjust the indices appropriately to account for the circular nature of the array.
    - You can use modulo arithmetic to handle wrapping around the array when adjusting indices.