**Search In Rotated Sorted Array**

#include<bits/stdc++.h>

int search(int\* arr, int n, int key){

int leftIndex = 0;

int rightIndex = n - 1;

while (leftIndex <= rightIndex) {

int midIndex = leftIndex + (rightIndex - leftIndex) / 2;

if (arr[midIndex] == key)

return midIndex;

if (arr[leftIndex] <= arr[midIndex]) { // Left part of the array is sorted

if (key >= arr[leftIndex] && key <= arr[midIndex])

rightIndex = midIndex - 1;

else

leftIndex = midIndex + 1;

} else { // Right part of the array is sorted

if (key > arr[midIndex] && key <= arr[rightIndex])

leftIndex = midIndex + 1;

else

rightIndex = midIndex - 1;

}

}

return -1; // Key not found

}