PSEUDOCODE :-

1. fixing the pivot element.
2. The pivot element divides the array into two sub-arrays.
3. after finding the pivot simply apply the binary search for both the portions of the array.
4. if the left half is sorted, then the target can be searched in the low index and the mid index.
5. if the right half is sorted, then the target can be searched in the mid and end index.

```
int low = 0, high = n-1;

while(low<=high)
{
int mid = (low+high)/2;
if(target == a[mid])
        return mid;

if(a[low] <= a[mid] )
{
if(target>=a[low] && target<a[mid])                    //target lies between low index
                                                              //  and mid index
{
high = mid-1;
}
else
{
low = mid+1;
}
}
else
{

if(target<= a[high] && target>a[mid])                  //target lies between mid index
                                                                    //end index
{
low = mid+1;
}
else
{
```

```
high = mid-1;
}
}

return -1;
}
```

Time Complexity :- O(log n)
Space Complexity :- O(1)