Algorithm 1: Mystery.

Input: Sorted array $A[0..n-1]$ of distinct integers, and left/right boundaries l and r.
Output: ...

1 if $l > r$ **then**
    return -1;
2 $m \leftarrow \lfloor (l+r)/2 \rfloor$;
3 if $A[m] = m$ **then**
4   **return** m;
5 else
    if $A[m] < m$ **then**
        return Mystery$(A, m+1, r)$;
    else
        return Mystery$(A, l, m-1)$;