Here is a length 6 array containing keys in sorted, increasing order. First, for each query key below, write down the sequence of array positions ([0], [1], [2], [3], [4], or [5]) that the computer looks into when it executes the binary search algorithm. Write "Found!" when the key is found and "Not in Array!" when the algorithm determines that the query key is not in the array.

The exact pseudo-code expression of the algorithm for this quiz is printed.

Second, draw the particular binary search tree equivalent to the search strategy that the pseudo-coded algorithm implements.

An example of these questions worked out for a length 3 array is printed to clarify what you should do.

Looking for J: [2], [4], [3] Not in array!
(You answer the rest.)
Looking for K:
Looking for D:
Looking for A:
Looking for B:

Now draw the binary search tree below:

This algorithm has the following invariant: If K is in X[0..n-1] then K must be in X[bot..top].