Peak Finder

Problem: Find a peak if it exits.

For a one dimensional array.

A	B	C	D	E	F	G	H	I
1	2	3	4	5	6	7	8	9

Position 2 is a peak only if B>=A and B>=C

Straight Forward Algorithm:

Start from left 1, 2, ..., n/2, ..., n
Worst case : O(n)

S

Remember, that the problem statement tells us to find "a" peak and not the greatest peak.
So, whichever peak we encounter first that will be our answer to the problem.

Divide and Conquer Algorithm:

Start from n/2..
If a[n/2] < a[n/2-1], then search in the left array.
else if a[n/2] < a[n/2+1], then search in the right array.
else n/2 is a peak

Worst Case : O(log n)