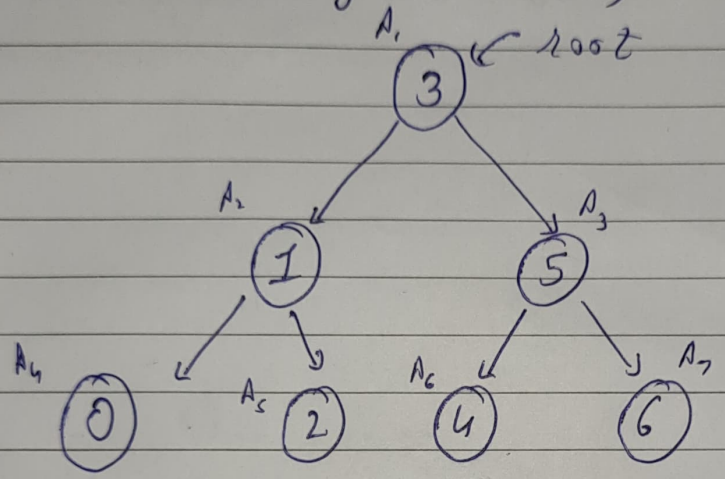
Q-14

(a) When call to the foo is returned, the root of a binary tree created by foo is returned. Each node has atmost two child there. As the array passed is sorted, the binary tree returned is ordered binary tree (also called binary search tree)



Here $A_1, A_2 \ldots A_7$ denotes the address where the nodes are stored. All these address space are spreaded over memory randomly. Thus if arry, is sorted then binary search tree is returned else binary tree is returned.

(b) Here fool() picks the mid of the array passed and then do recursive call on the left half and right half of the array.

Note: Here out of index access to array is not handled but we assume that fool handles it implicitly.

The call to itself continues until call is made with array of size 1. After that all recursive calls starts returning and the returned values are used to build binary tree in bottom-up manner (from child to root)