Q1:

a)

Nameless returns the common parent node which is at the lowest position in the tree.

Stacks and respectively store the nodes from and to the root. We remove the top element from both stack until they are different, and return the reference to the last node that is still the same, therefore the node reference refers to the lowest common parent.

b)

worst case:

and are both child of one node and are both lowest leaves(maximum height).

Let be the height of the tree.

Building stack :

Building stack :

Pop procedure while loop execute:

Pop procedure while loop times: times

Total: .

best case:

and are both root node.

Building stack :

Building stack :

Pop procedure while loop execute:

Pop procedure while loop times: times

Total: .

Q2:

I:

a)

