Question 1

In a Juice shop, the shopkeeper sells Mango, Orange and Pineapple milkshakes. Group of customers comes and orders milkshakes. Your Juice machine can deliver two different milkshakes in 1 second or 1 milkshake in a second. Find out the minimum time required to deliver these milkshakes.

Test case 1:
Total number of orders for Mango milkshake
5
Total number of orders for Orange milkshake
4
Total number of orders for Pineapple milkshake
4

Minimum time needed to deliver all orders is: 7

Test case 2:
Total number of orders for Mango milkshake
3
Total number of orders for Orange milkshake
0
Total number of orders for Pineapple milkshake
0

Minimum time needed to deliver all orders is: 3

Test case 3:
Total number of orders for Mango milkshake
1
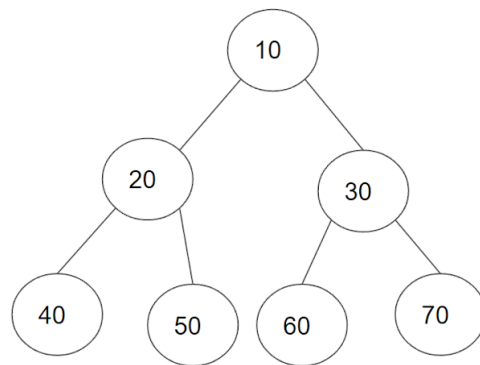Total number of orders for Orange milkshake
4
Total number of orders for Pineapple milkshake
2

Minimum time needed to deliver all orders is: 4

Question 2

Find the Lowest Common Ancestor in a Binary Tree for two nodes , n2.

Lowest Common Ancestor (20,30) = 10
Lowest Common Ancestor (40,30) = 10
Lowest Common Ancestor (60,70) = 30
Lowest Common Ancestor (20,40) = 20
we define each node to be a descendant of itself (so if n1 has a direct connection
from n2, n2 is the lowest common ancestor).

Approach

Traverse tree twice and store path root to node1 and root to node 2. Traverse both paths till the values in arrays are the same. Now return the common element just before the mismatch.