Sample Tree

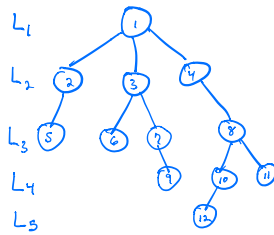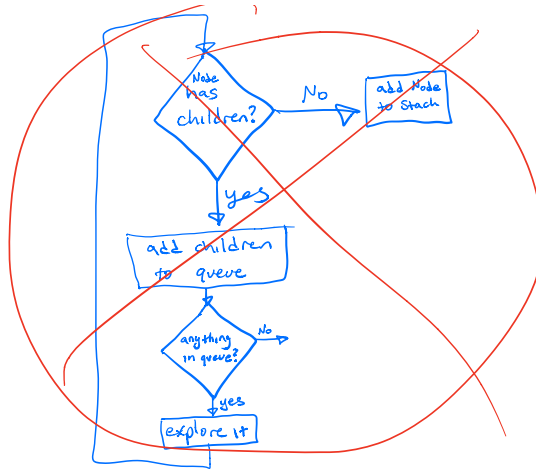L₁ ... L₅ tree with nodes 1-12

L_1
L_2
L_3
L_4
L_5

nodes = 12
height = 4
levels = 5

Expected Results Vector:
1 2 3 4 5 6 7 8 9 10 11 12

Algo logic Test

Results Vector:
1 2 3 4 5 6 7 8 9 10 11 12 ✓

Queue:
~~1 2 3 4 5 6 7 8 9 10 11 12~~

Steps:
1. Add 1 to queue (Q)
2. Add 2,3,4 to Q
3. Add 1 to results vector (RV)
4. 2: add 5 to Q
5. Add 2 to RV
6. 3: Add 6,7 to Q
7. Add 3 to RV
8. 4: Add 8 to Q
9. Add 4 to RV
10. 5: Add 5 to RV
11. 6: Add 6 to RV
12. 7: Add 9 to Q
13. Add 7 to RV
14. 8: Add 10, 11 to Q
15. Add 8 to RV
16. 9: Add 9 to RV
17. 10: Add 12 to Q
18. Add 10 to RV
19. 11: Add 11 to RV
20. 12: Add 12 to RV

FLOWCHART

(crossed out diagram)
Node has children? → No → add Node to Stack
yes
add children to queue
anything in queue? → No
yes
explore it

add root to queue
Queue have any Nodes? → No → DONE
yes
Node = queue.front()
Add all Node children to queue
Add node.data to results vector and pop() off queue