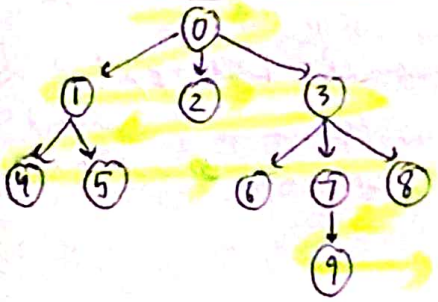
LEVEL ORDER LINEWISE TRAVERSAL IN GENERIC TREE (Second Method)



Output: 0 / 1 2 3 / 4 5 6 7 8 / 9

$T(n) = O(n)$

- Iss Baar hum 1 queue use karke solve krengy yeh Question.

START

- Queue ko LinkedList ki trah use krekey!

Code

```
public static void levelOrderLinewise(Node node) {
  LinkedList<Node> que = new LinkedList<>();
  que.addLast(Node);

  while(que.size() != 0){
    int currSize = que.size();

    while(currSize-- > 0){
      Node rnode = que.removeFirst();
      System.out.print(rnode.data + " ");

      for(Node child : rnode.children){
        que.addLast(child);
      }
    }
    System.out.println();
  }
}
```

(currSize-- > 0)

↓

post operator

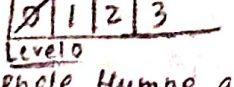
∴ Phele condition check hogi fir currSize -- hoga!

RemoveFirst + AddLast = Queue

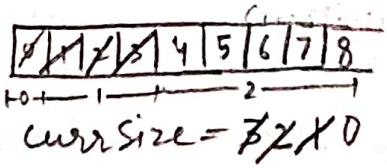
AddFirst + RemoveFirst = Stack

START

currSize = ✗ 0



Output → 0

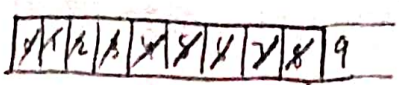


currSize = ~~3~~ ✗ ✗ 0

Output → 0 / 1 2 3

- Phele Humne queue Banayi, usme add-last kiya! (node) ko.
- Yeh level 0 hai
- Loop chalaya size dekha 0 nahi hai loop me enter kiya!
- Ander enter krty hi currSize pata kiya Queue
- Ander ek aur loop laga dekha! uske

same process



currSize = ~~5~~ ✗ ✗ ✗ ✗ 0

START

currSize = 0

0	1	2	3

Level 0

- Phele Humne queue Banayi, usme add-last kiya! (Node) ko.
- Yeh Level 0 hai
- Loop chalaya size dekha 0 nahi hai loop me enter kiya!
- Ander enter krty hi currSize pata kiya Queue
- Ander ek aur loop laga dekha! uske ander aane se phele dekha currSize < 0. Yes, then currSize--. kiya!
- Apne node ko remove krdia, Node.data ko kiya Print aur Node ke saare child ko utha kr queue me daldo
- currSize == 0, loop break
- Bahar akke next line!

same process

Output → 0

0	1	2	3	4	5	6	7	8

currSize = 9 2 1 0

Output

0

1 2 3

1	2	3	4	5	6	7	8	9

currSize = 5 4 3 2 1 0

Output

0

1 2 3

4 5 6 7 8

4	5	6	7	8	9	10	11	12

currSize = 0

Output

0

1 2 3

4 5 6 7 8

9