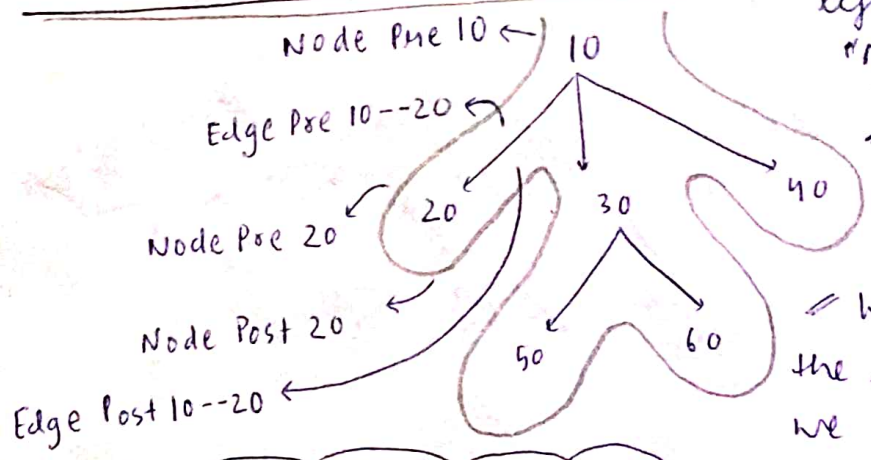
TRAVERSAL IN A GENERIC TREE



- Jab-Jab hum element ke left side me traverse krengy vo Pre-Order Traversal hoga!
- Isko hum recursive call se phele likty hai
- Yeh tab hota hai jab hum stack me upar jaty hai
- Root ko phele visit krty hai uske childrens se

- Jab-Jab hum element ke right side me traverse krengy vo Post-Order Traversal hoga!
- Isko recursive call ke baad likhty hai!
- Yeh stack me nichey jaty waqt hota hai.
- Root baad me visit hoti hai phele children hota hai!

= When we traverse through the left of an element, we print "Node Pre 10".

= When we traverse through the left edge b/w 2 elements we print "Edge Pre 10--20".

= When we traverse through the right edge b/w two elements we print "Edge Post 10--20"

= When we traverse through the right of an element, we print "Node Post 10".

```
public static void traversals(Node node){
    //Node Pre
System.out.println("Node Pre"+node.data)
for(Node child : node.children){
    //Edge Pre
Syso("Edge Pre"+node.data+"--"+child.data)
traversals(child);
Syso("Edge Post"+node.data+"--"+child.data);
//Edge Post
}
System.out.println("Node Post"+node.data);
// Node Post
}
```

Output

```
Node Pre 10
Edge Pre 10--20
Node Pre 20
Node Post 20
Edge Post 10--20
Node Pre 30
Edge Pre 30--50
Node Pre 50
Node Post 50
Edge Post 30--50
Edge Pre 30--60
Node Pre 60
Node Post 60
Edge Post 30--60
Node Post 30
Node Post 10--30
Edge Pre 10--40
Node Pre 40
Node Post 40
Edge Post 10--40
Node Post 10
```

= Time Complexity: $O(2^n)$

= Space Complexity: $O(1)$