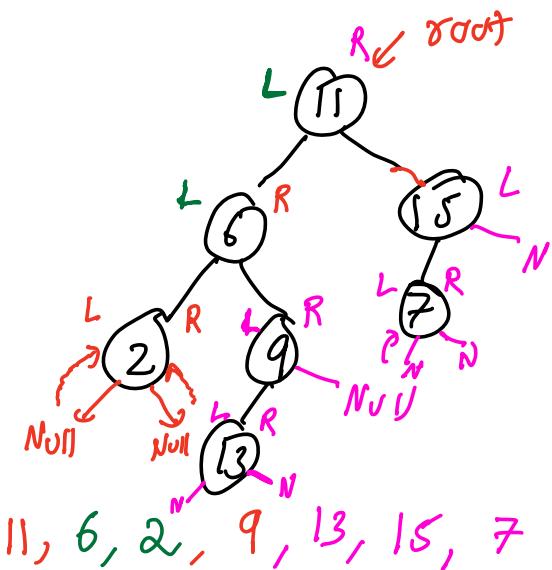




Preorder

```
void preOrder (TreeNode root)
{
    if (root == null)
        return;
    print (root.val)
    preOrder (root.left);
    preOrder (root.right);
}
```

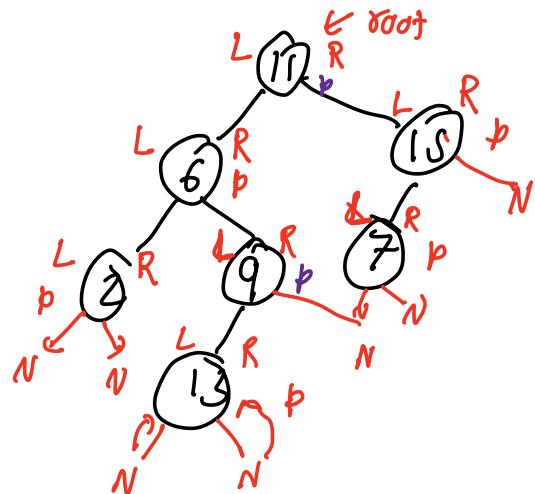


Postorder

```

void postorder(root)
{
    if (root == null)
        ret
    postorder (root.left)
    postorder (root.right)
    print (root.data),
}

```



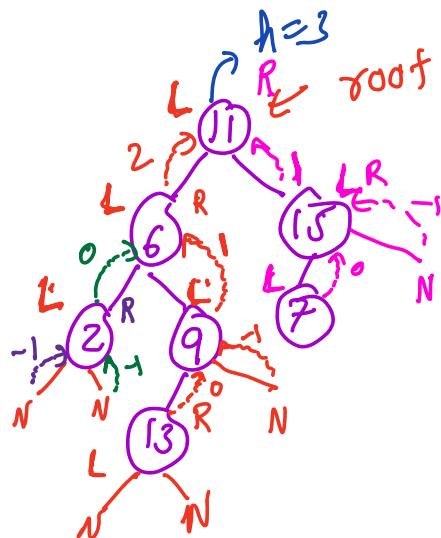
→ 2, 13, 9, 6, 7, 15, 11

⇒ Height of tree

```

int height (root)
{
    if (root == null)
        ret -1;
    int l= height (root.left)
    int r= height (root.right)
    ret max( l, r ) +1
}

```



Short circuiting

→
true

||

→
Not to be executed

$\overleftarrow{\text{P}}$ $\cancel{\text{X}}$ $\overrightarrow{\text{P}}$
 false Not to be executed

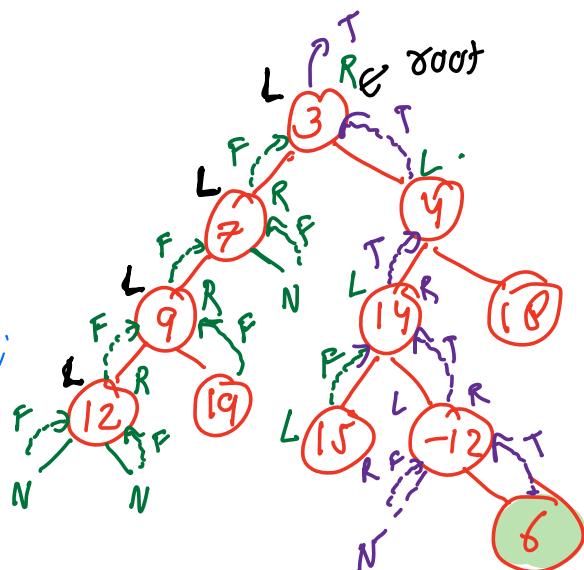
Q) BT. Search a value K in if.

```

boolean search (root, k)
{
  if (root == null)
    ret false
  if (root.val == k)
    ret true,
  ret search (root.left, k)
  || search (root.right, k);
}
  
```

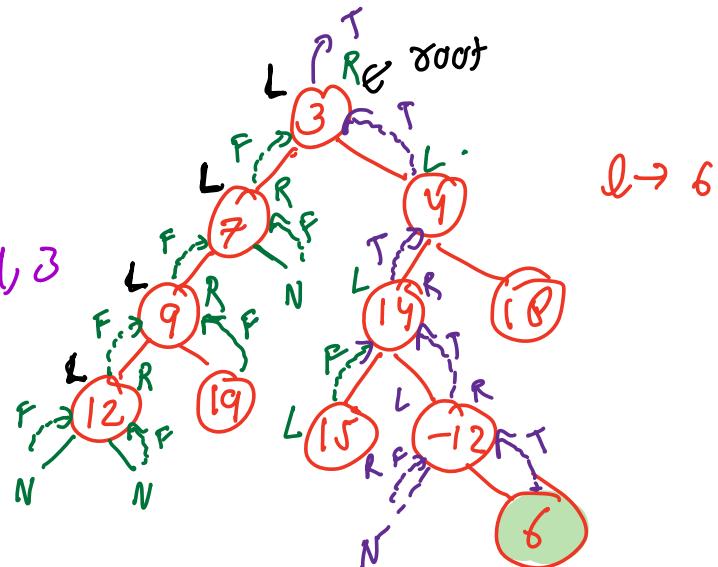
```

boolean search (root, k)
{
  if (root == null)
    ret false
  if (root.val == k)
    ret true,
  ret search (root.left, k)
  || search (root.right, k);
}
  
```



Given a tree, contains all unique value
get the path of K

$$3, 4, 14, -12, 6$$



$$L \Rightarrow 6, -12, 14, 4, 3$$

List < Node > l;

```
bool check (Node root, int K)
```

if (root == null) return false;

if (root->data == k)
{
 p = odd (odd)

return true;

1

```
if [ check( root.left, k) || check( root.right, k) ]
```

l. add(root);

return frq;

3

```

        else
            return false
    }
}

```

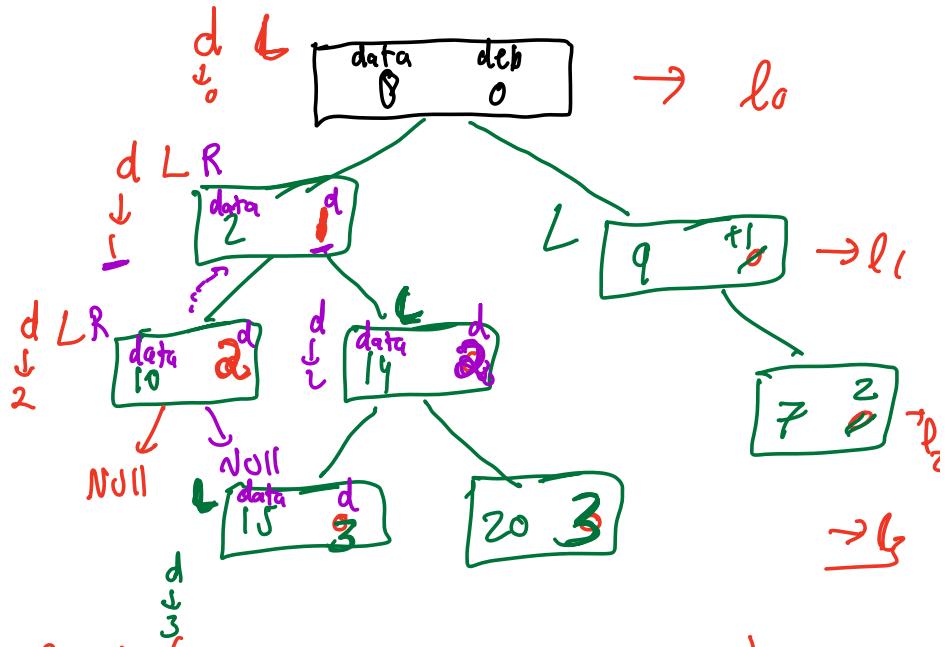
Break: 8:58

⇒ Fill Depth

```

class Node
{
    Node left;
    Node right;
    int data;
    int depth;
}

```



```

void fillDepth( Node root, int d)
{
    if( root == NULL)
        return;
    root.depth = d;
    fillDepth( root.left, d+1)
    fillDepth( root.right, d+1)
}

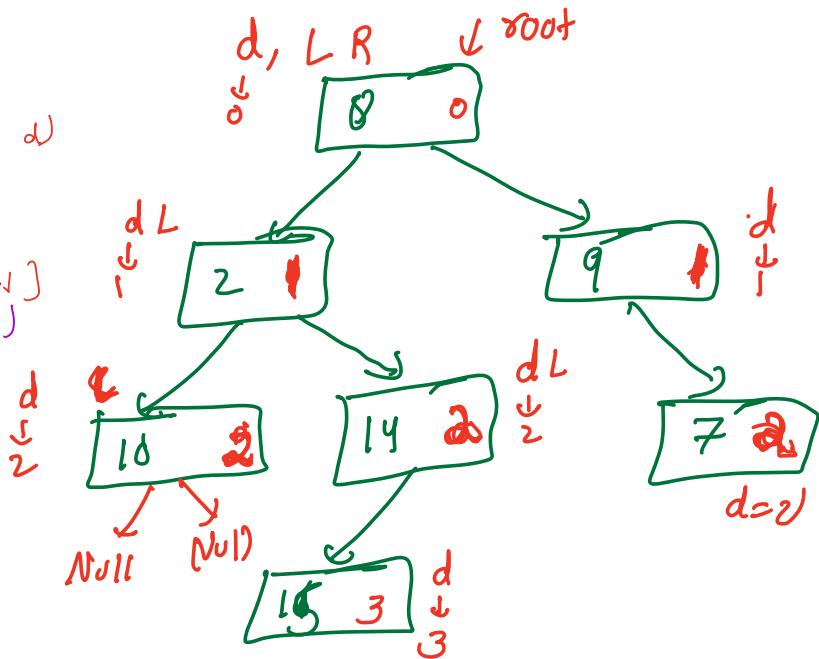
```

```

void fillDepth3( Node root, int d)
{
    if (root == null)
        return;
    root.depth = d;
    fillDepth( root.left, d+1 );
    fillDepth( root.right, d+1 );
}

```

fillDepth(root, 0)



78 2955524