2016 DECEMBER 05
MONDAY

Aubaiz Ahmed
1BM19CS40

4th Pgm

Insertion (AVL Tree)

```
insert (node, key)
    if !node
        return newNode (key)
    if key < node -> key
        node -> left = insert (node -> left, key)
    if (key >= node -> key
        node -> right = insert (node -> right, key)
    else
        return node
    node -> height = 1 + max (hight (node -> left)
                              , hight (node -> right))
```

06 DECEMBER 2016
TUESDAY

WK 50 - 341-025

Balance Node

```
int bal = getBalance(node)
if (bal > 1 && key < node->left->key
    return rotateRight(Node)
if (bal <= 1 && key > Node->right->key
    return leftRotate(Node)
if bal <= 1 && key < node->right->key
    node->right = rotateRight(node->
                              right)
    return rotateleft(node)
return node
```

→ deletion

```
delete(root, key)
if !root
    return root
if (key < root->key)
    root->left = delete(root->left, key)
```

```
if key > root->key
    root->right = delete(root->right, key)
else {
    if !root->left || root->right
        root = (root->left) ?
            root->left :
            root->right
    else
        temp = minval(root->right)
        root->key = temp->key
        root->right = delete(root->right,
                             temp->key)

    if !root
        return root
root->height = 1+max(height(root->left),
                     height(root->right))
return Balance(root)
}
```