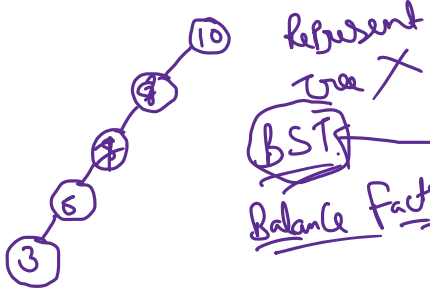


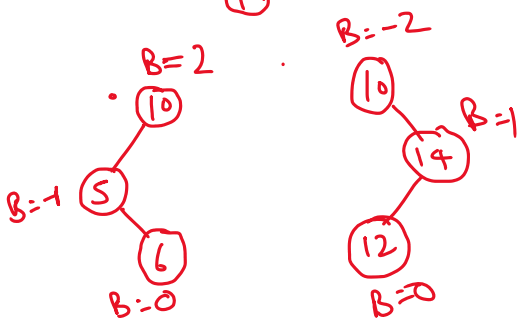
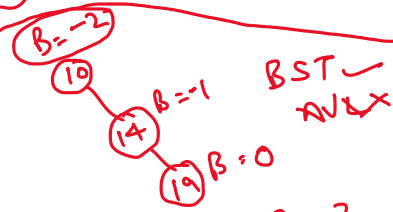
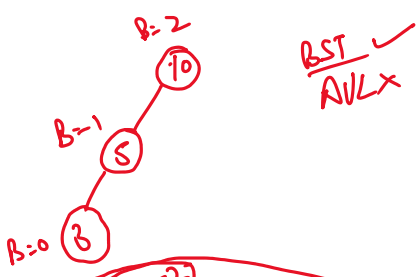
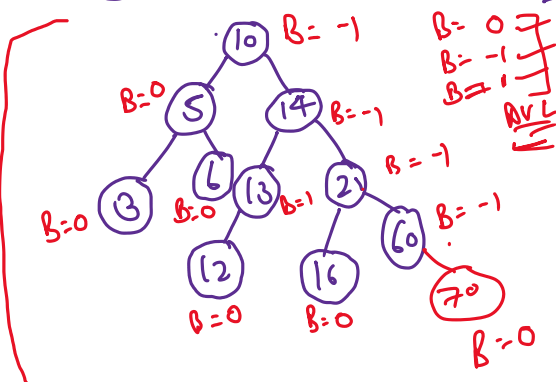
## Skewed Tree



10 7 8 5 3



represent tree X  
BST  
Balance Factor +  
AVL ✓



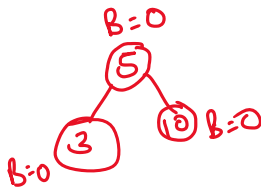
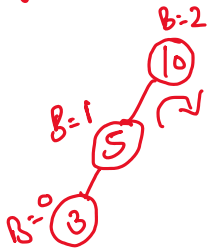
## # Rotations

# # Rotations

- 1) Left Rotation ✓
- 2) Right Rotation ✓
- 3) Left Right Rotation ✓
- 4) Right Left Rotation ✓

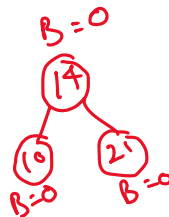
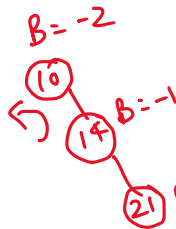
## Right Rotation

Right ✓

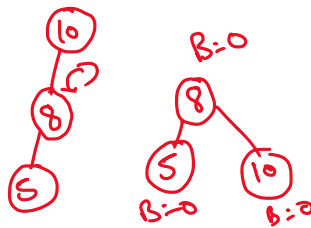


## Left Rotation

Left

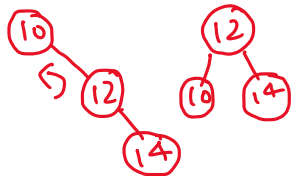


Right Left

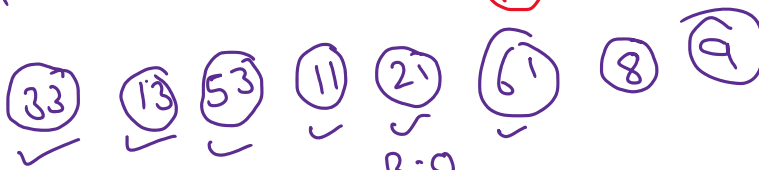


Left Right

AVL



## Example



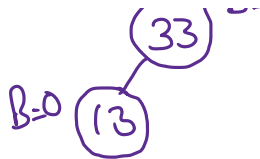
## Phase I



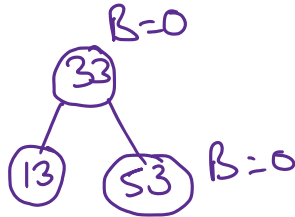
## Phase II



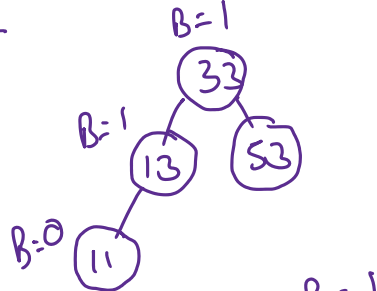
Phase II



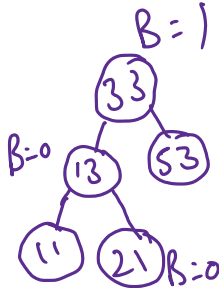
Phase III



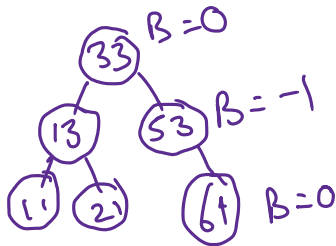
Phase IV



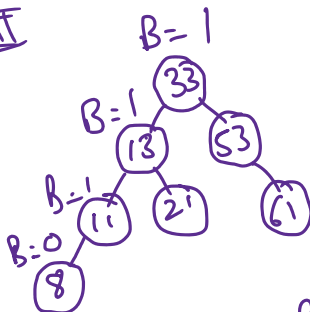
Phase V



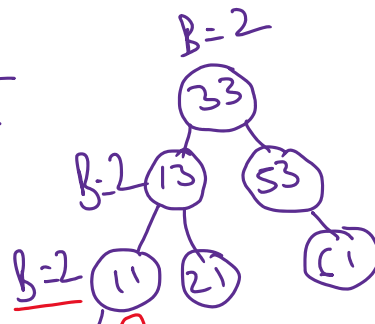
Phase VI



Phase VII



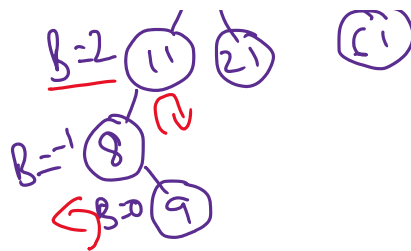
Phase IX



Positive > left child  
Balance factor

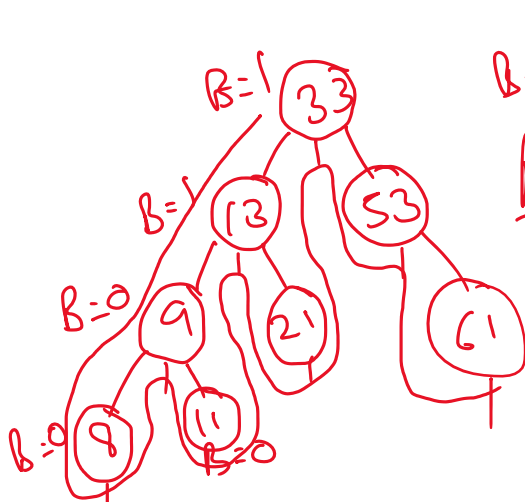
Right child ✓

Positive / Balance Factor

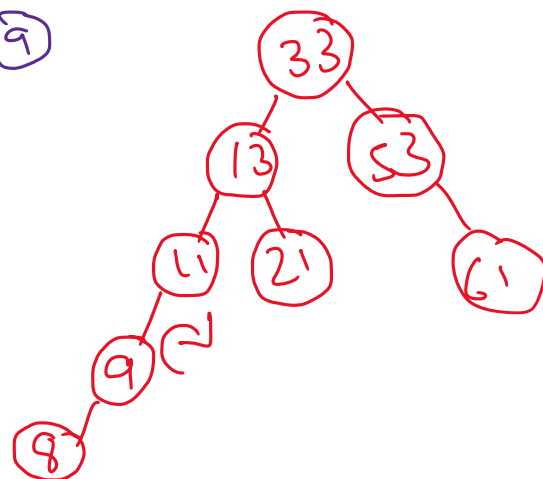


Right Wgt

Negative > Right Balance Factor



BST ✓  
AVL ✓



8, 9, 11, 13, 21, 33, 53, 61