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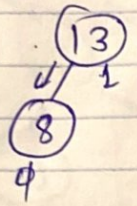
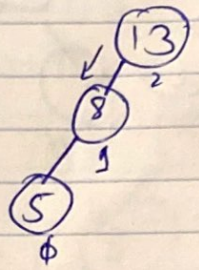
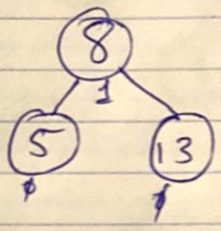
Homework 5

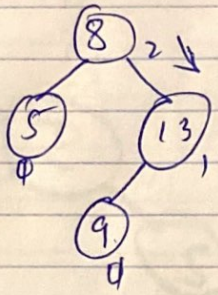
Q1.) Inserting 13, 8, 5, 9, 4, 6, 12, 2, 1, 3

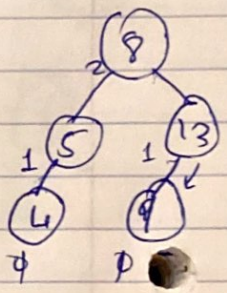
Insert(13) → 

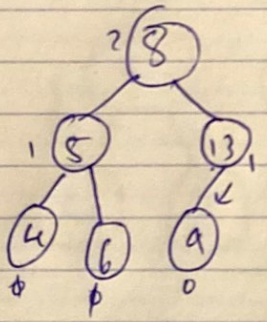
Insert(8) → 

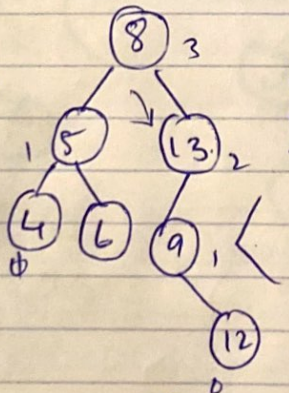
Insert(5) → 

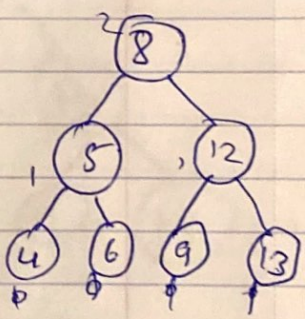
Applying Right Rotation → 

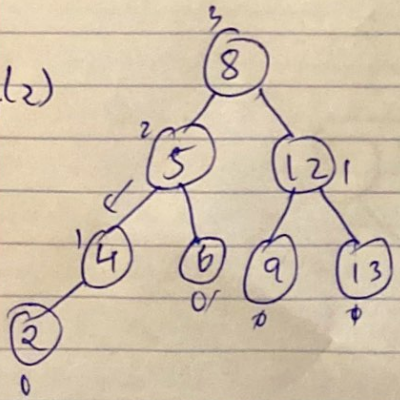
Insert(9) → 

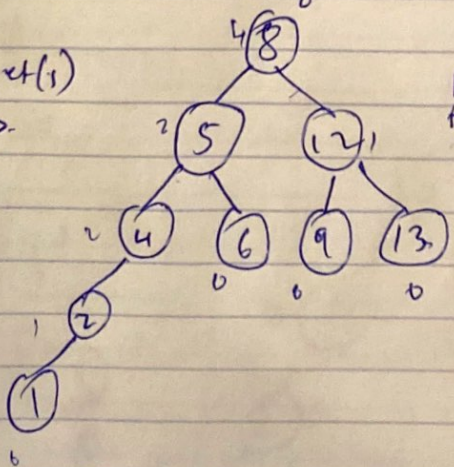
Insert(4) → 

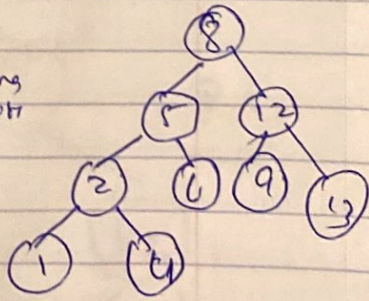
Inserting(6) → 

Insert(12) → 

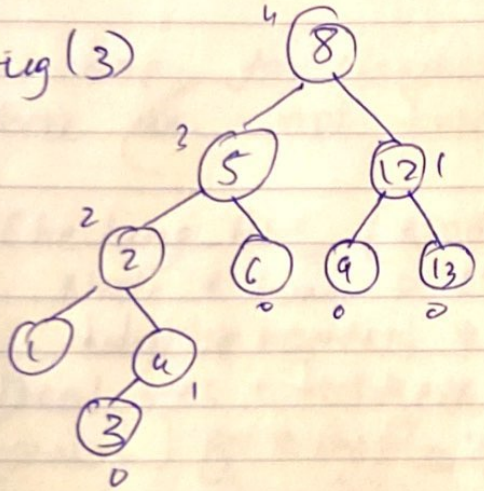
Apply Left-Right Rotation → 

Inserting(2) → 

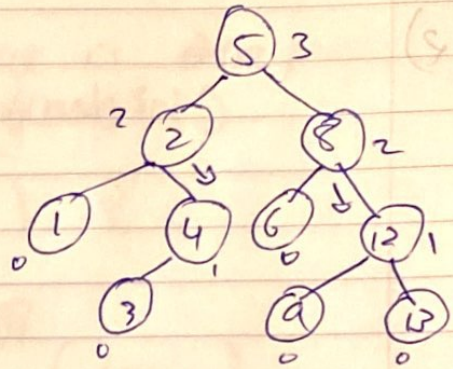
Insert(1) → 

Applying Right Rotation → 

→ Inserting (3)



Applying RR Rotation →



Final AVL Tree.

Q2) Pseudo code for checking if tree is a proper AVL tree or not is as follows:

```
Checking_AVL (Node *root)
  Node * temp = NULL.
  temp = root.
Bool res = Check_Binary (temp)
      if res = "false"
        return False
      else return true;
Bool int res1 = check_Height (temp).
   if (res = "false
    if ( res == "false || res1 != temp->height)
        return false
    else return true.

int Check_Height (Node temp)
{
    int height = 0
    if ( temp != NULL )
      { int left_hieght = Check_Height (temp->left)
        int righ_heigt = Check_Height (temp->righ)
        int height = Left_height
          if left_heigh >= right_heigh
          m_heigh = left heigh;
          else m_heigh = righ_height;
        & height = m_height + 1;
    }
    return height.
}
```