ADS LAB - 6

S.R.PUNEETH
1BM18CS087
18/11/20

pseudocode

```
void insertFix(Node*K){
Node U;
while K->parent->colour==1
 if K->parent==K->parent->parent->right
  U=K->parent->parent->left;
  if U->color==1
     U->color=0;
     k->parent->color=0;
     K->parent->parent->color=1
     K=K->parent->parent
    else
    if K==K->parent->left
       K=K->parent
       rightRotate(h);
       K->parent->parent->color=1
       leftRotate(K->parent->parent)
      else
      U=K->parent->parent->right
      if U->color==1
        K->parent->color=0
        K->parent->parent->color=1
        K->K->parent->parent
        else
        if K=K->parent->right
           K=K->parent
           leftRotate(K)
```

S.R.Puneeth.

S.RAUNEETH
1BM18CS087

```
k -> parent -> color = 0
k -> parent -> parent -> color = 1
rightRotate(k -> parent -> parent)
if k == root
  break;
root -> color = 0;
void insert(int key)
Node node = new Node;
Node -> parent = null;
Node -> data = key
node -> left = TNULL
node -> right = TNULL
node -> color = 1

Node y = null;
Node x = this -> root
while (x != TNULL)
  y = x
  if node -> data < x -> data
    x = x -> left
  else
    x = x -> right
  node -> parent = y
  if y == null
  root = node;
  else if node -> data < y -> data
  y -> left = node else y -> right = node
  if node -> parent == null
    node -> color = 0 return;
  if node -> parent -> parent = null
    return;
  insertFix(node)
```

S.R.Puneeth