**Algorithm:**

Let x be the newly inserted node.

1. Perform a standard BST form Insertion and make the colour of newly inserted nodes as RED.
2. If x is the root, change the colour of x as BLACK (Black height of complete tree increases by 1).
3. Do the following if the color of x’s parent is not BLACK **and** x is not the root.   
   **a) If x’s uncle is** **RED** (Grandparent must have been black from property 4)   
   **(i)** Change the colour of parent and uncle as BLACK.   
   **(ii)** Colour of a grandparent as RED.   
   **(iii)** Change x = x’s grandparent, repeat steps 2 and 3 for new x.

**b) If x’s uncle is BLACK**, then there can be four configurations for x, x’s parent (**p**) and x’s grandparent (**g**) (This is similar to AVL Tree)   
**(i)** Left Left Case (p is left child of g and x is left child of p)   
**(ii)** Left Right Case (p is left child of g and x is the right child of p)   
**(iii)** Right Right Case (Mirror of case i)   
**(iv)** Right Left Case (Mirror of case ii)

Output:

Text

Description automatically generated