```
Node* insert_aux(Node* root, int value) {
  Node* o;
  if (root == null) {
    o = new Node(value);
  }
  else {
    if (root.value == value) {
      o = root;
    }
    else {
      if (value < root.value) {
        root.left = insert_aux(root.left, value);
        root.left = balance(root, LEFT);
        o = root;
      }
      else {
        // Symmetrical
      }
    }
  }
  return o;
}
```

$$o = \text{bal}\left(\text{ins\_aux}\left(\overset{\overset{\textstyle root}{\mid}}{\underset{\overset{l}{\triangle} \; , \; \underset{value}{} \; \overset{r}{\triangle}}{\overset{v > w}{\bigcirc}}} \right) \right)^{h}$$