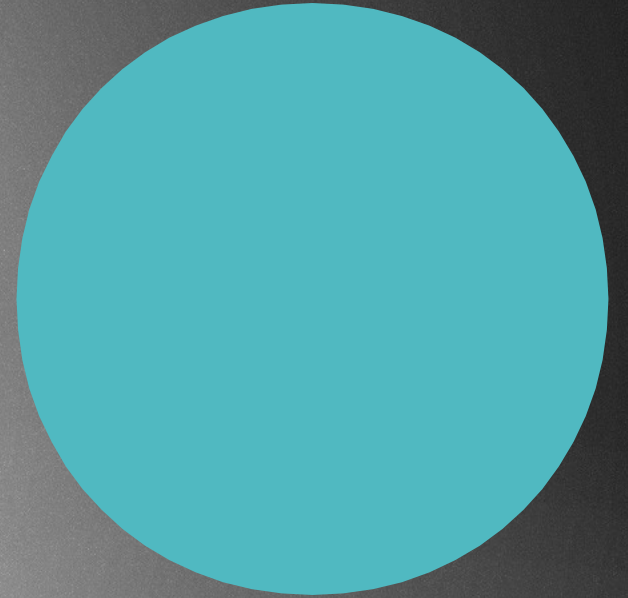


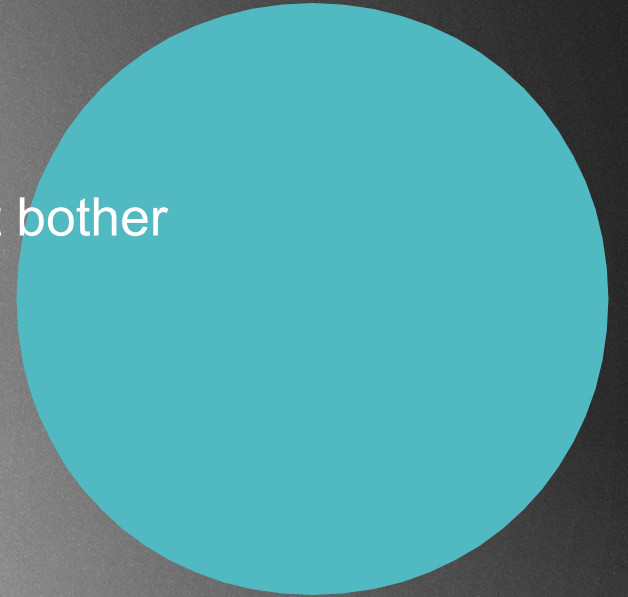
# RED-BLACK TREES





# Red-black trees

- ▶ Linux kernels relies heavily on red-black tree data structure
- ▶ Insertion is fast -> because it is not rigidly balanced, we do not bother about making the tree as balanced as possible
- ▶ For an insert intensive tasks, use a Red-Black tree !!!
- ▶ Java: `java.util.TreeMap` , `java.util.TreeSet`
- ▶ C++ STL: `map`, `multimap`, `multiset`





# AVL

- ▶ Rigidly balanced tree and hence provide faster look-ups
- ▶ For a look-up intensive task use an AVL tree
- ▶ Insertion/deletion is not so fast -> because we keep rebalancing the tree !!!