**Algorithm - Short Quiz / lab 12/8/21**

**Data Structure, BST, RB Tree, Heap**

1. **Universal Hash Function always optimizes collisions - T/F**
2. **Just color change when appropriate is better than rotation in RB – T/F**
3. **How does RB tree guarantees a height of O(logn)?**
4. **How does a Heap guarantees a balanced tree?**
5. **Create an RB tree using 8, 18, 5, 15, 17, 25, 40, 80. Start with 1st node as 8.**
6. **Create a max Heap from**

**[15, 3, 2, 1, 6, 5, 3, 4, 9] (i.e. do Build Heap)**

**(you can work individually or as a group)**