Data Structures

BST Homework 4

Mostafa S. Ibrahim
Teaching, Training and Coaching for more than a decade!

Artificial Intelligence & Computer Vision Researcher
PhD from Simon Fraser University - Canada
Bachelor / Msc from Cairo University - Egypt
Ex-(Software Engineer / ICPC World Finalist)

Problem #1: Node Deletion using predecessor

- In the lecturer's code, we used the **successor** to handle the 2 child case
- Change the code to use instead the **predecessor**

Problem #2: Node Deletion without recursion

- In the lecturer's code, we utilized recursion to help us easily delete successor nodes for the 2-child nodes case
- Change the code to do this deletion locally **without** making further **recursive** calls
- Sketch out the different cases carefully
- Don’t complicate things. Keep it simple

```
        # 2 children: Use successor
        mn = self.min_node(current.right)
        current.val = mn.val    # copy data
        current.right = process(current.right, mn.val)
        return current

process(self.root, val)
```

"Acquire knowledge and impart it to the people."

"Seek knowledge from the Cradle to the Grave."