

Assignment 2: Comparison of BST and AVL Tree

- Generate 100 inputs: Each an array of 1000 unique keys (positive integers) (10 marks)
- For each input
 - Construct a **binary search tree** through sequential insertion. (5 marks)
 - For each tree, note down its final height (–)
 - Choose 100 keys uniformly at random without replacement from the input array. (10 marks)
 - Delete these keys one by one. (10 marks)
 - Count the work done for all these operations: Number of comparisons, pointer operations (all nodes have parent/left/right pointers and height; implement using struct/pointers) (10 marks)
 - Repeat the same for **AVL trees (15,--,--,15,--)**
- Compare heights and work done using plots and write your remarks in a pdf file. **(10 marks)**

Upload: a gzipped tar-ball of (a) the inputs (b) the code files and (c) the write-up with comparison plots. Do not take any code from each other or the internet.