COMP 6521: Advanced Database Technology and Applications

Project Summary and Assumptions

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The following things were assumed while implementing the project:

1) The leaf node can contain maximum 2 records.

2) Only 2 duplicate records can be inserted in the tree, otherwise there won't be any space left to accommodate 3rd record.

3) The tree will be built on every insertion of record. The split will only happen if the leaf node is full, and bulk data insertion won't be treated specially i.e. median of the whole data would not be used to create the tree.

4) In case of 3 duplicate values of same field, e.g. (Salary:30,30,30 ,Age:10,20,30), and if the split was supposed to happen based on Salary, then we will be creating a new split on next level based on Age, so that all the KD Tree properties are not violated.

5) Printing of KD-tree is done based on In-order traversal from root node.

6) When the first 2 records are inserted, the root and the leaf node will be the same and after inserting 3rd record, the split would happen, and a new level would be added.

7) Our implementation of project doesn't limit the number of attributes/dimensions to 2 and any number of dimensions can be added.