CSDS 233 Spring Session 9

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Disclosure: This is a supplement to class, not a replacement. This should not be your only study activity for exams, it should aid you in studying. I do not have access to the actual exam so questions here will differ from those on the exam.

Session Objectives:

1) Be Able to solve B-Tree diagram questions that involve addition of new values
2) Be Able to solve B-Tree diagram questions that involve deleting of existing values

Questions

1) Solve the following
    a. Define Key

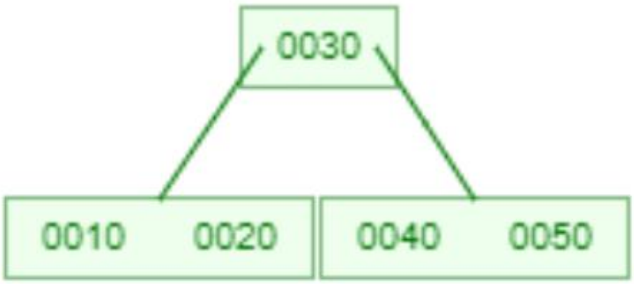
    b. Define Node

    c. What is the minimum number of keys per node (in terms of M excluding the root)

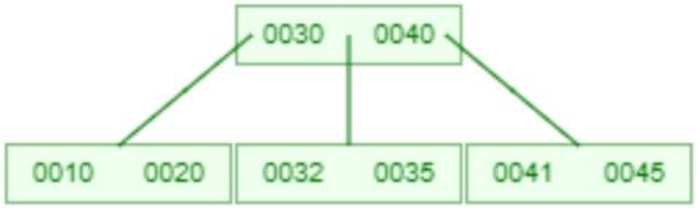
    d. What is the maximum number of keys (in terms of M)

    e. What is the minimum number of keys the root can contain?

2) Draw the B-Tree after adding 60, 70, then 80 in that order (m = 3). Also what in the minimum number of keys for a node (excluding root)? What is the maximum number of keys for a node?



3) Draw the B tree of m = 2 and add the value 50.

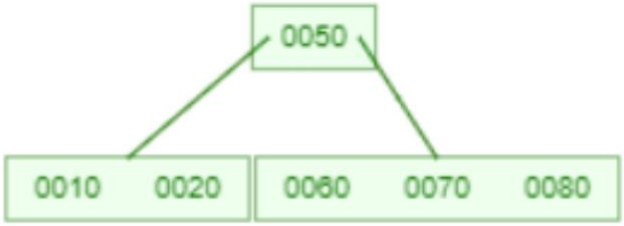


4) Draw B-Trees for the following operation in the following order: 10, 5, 4, 2, 7, 8, 12, 11 with m = 2

5) Draw the same B-tree from the previous question but m = 3

6) Draw a B tree of the following additions 1 3 4 5 7 10 2 -1 15 and -2 with a degree of 3

7) Delete 60 degree =3



8) Delete 50 degree = 3

9) Delete 30 degree = 2