

The University of New South Wales

COMP9315 DBMS Implementation 21T1 Final Exam

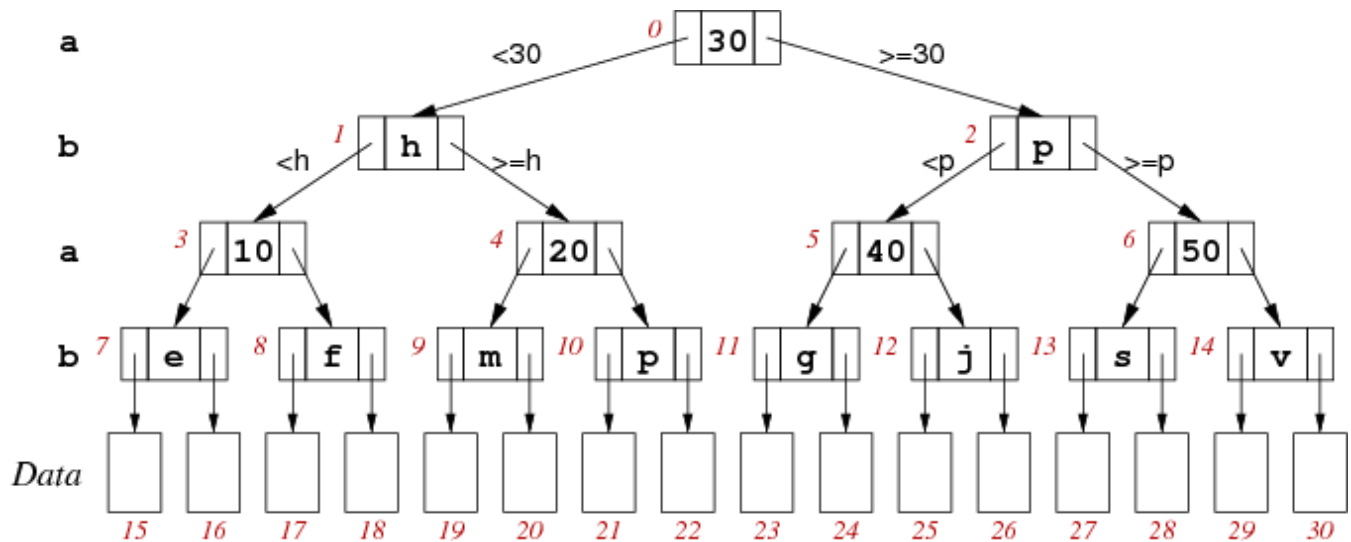
[Instructions] [PostgreSQL] [C]
[Q1] [Q2] [Q3] [Q4] [Q5] [Q6] [Q7] [Q8]

Question 5 (10 marks)

Consider the following relation

```
create table R (a integer, b char(1));
```

and a 2-way **kd-tree** index constructed on this relation



Show, in order of access and starting from node 0, the sequence of index and data pages (red numbers) that will be accessed in answering each of the following queries:

- `select * from R where a = 20 and b = 'a';`
- `select * from R where a = 60;`
- `select * from R where b = 'd';`
- `select * from R where a < 60 and b > 'f';`
- `select * from R where b > 'c';`

Assume a recursive "node, then left subtree, then right subtree" style traversal.

Note that it is irrelevant whether a query finds any solution; it would find solutions when it examines data pages.

Instructions:

- Type your answer to this question into the file called `q5.txt`
- Submit via: **give cs9315 exam_q5 q5.txt**
or via: Webcms3 > exams > Final Exam > Q5 submission > Make Submission

End of Question