CS 410 Summer 2000 **Quiz 10** **Monday July 24**

Name: ______________________________ ID: ______________

1. *With B-trees, why don't we allow $t = 1$?*

   Because this would allow "empty" nodes (nodes with no key and one child) anywhere in the tree.

2. *For what values of t is the tree below a legal B-tree?*

   For $t = 2$ **and** $t = 3$.

   All nodes other than the root have 2 or 3 keys in them. For $t = 2$, all nodes can have between 1 and 3 keys, and for $t = 3$ all nodes (other than the root) can have between 2 and 5 keys. The root can always have fewer than the "minimum" number of keys (but must have at least one key if the tree is not empty).

   (Figure was Figure 19.1 from CLR)