## h5 RB Delete, Git, B-Trees

Started: Mar 4 at 2:04pm

## **Quiz Instructions**

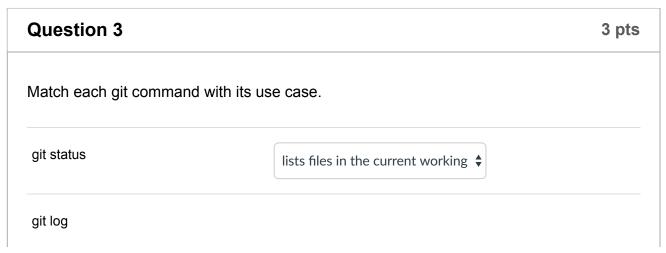
Question 1	2 pts
In a B-Tree with a branching factor of 5, <b>seven</b> numbers are added, in no particular After these insertions, how many keys are in the root?	r order.
1	

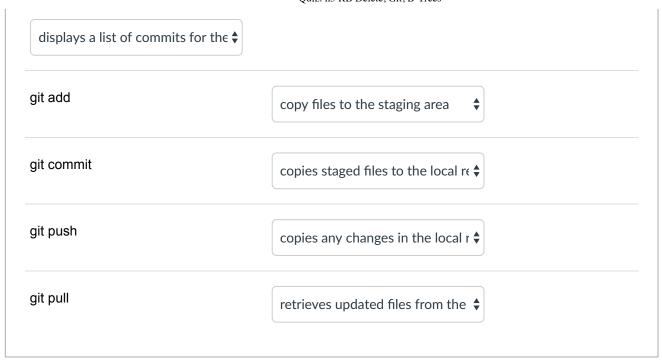
A B-Tree with a branching factor of 5 is created.

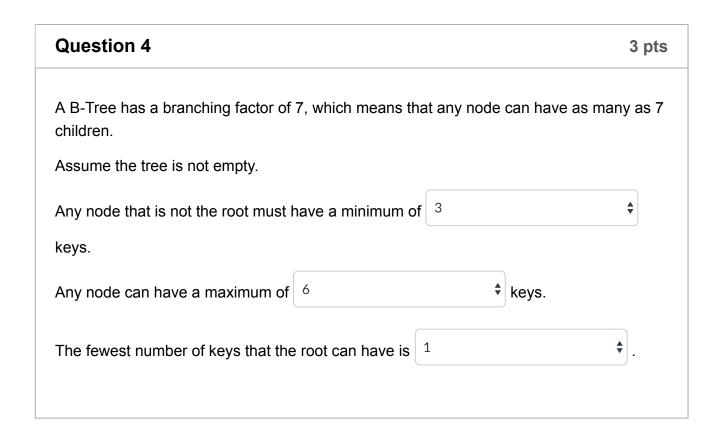
The following numbers are inserted, in this order: 3, 9, 8, 2, 1, 6, 4, 7, 5

In the node that contains the number 8, how many keys are there?

Hint: draw the tree







```
Question 5

Assume that a B-Tree uses the following node type:

class BTreeNode<K, V> {
   private List<K> keyList;
```

```
private List<V> valueList;
private List<BTreeNode <K,V> childList;
private BTreeNode() {
    keyList = new ArrayList<K>();
    valueList = new ArrayList<V>();
    childList = new ArrayList<<BTreeNode<K,V>>();
private boolean isLeaf(){
    return childList.size() == 0;
}
```

You are writing a recursive inorder traversal method that you would call with the command

```
print_inorder(root);
```

Fill in the missing parts of the code using the choices given.

```
// prints out the keys, in order
private void print_inorder(BSTNode<K,V> current) {
    if (current == null) { return; }
    int i=0;
                            current.keyList.size()
    while (i <
) {
        if ( ! current.isLeaf())
                                        current.childList.get(i)
             print_inorder(
);
                                         current.keyList.get(i)
        System.out.println(
   " " );
        i++;
                               current.childList.get(i)
                               current.keyList.get(i)
    print_inorder(
);
}
```



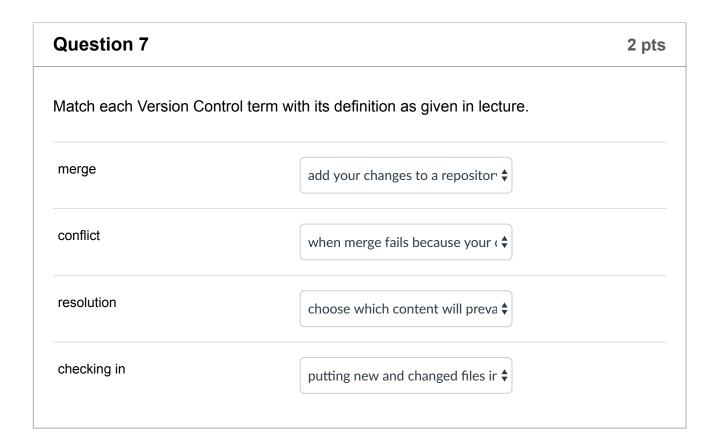
Which case of a Red-Black Tree Delete is the most complicated (has the most cases to consider)?

o deleting a black leaf

deleting a node with exactly one child

deleting a red leaf

deleting a node with two children



You are trying to delete a node in a Red-Black tree.

Let d be a reference to the node you are trying to delete.

Let g be a reference to d's parent and assume g's right child is d.

Let k be the only child of d.

Quiz saved at 2:24pm	Submit Quiz