CS 314 Final Review — Binary Subtrees

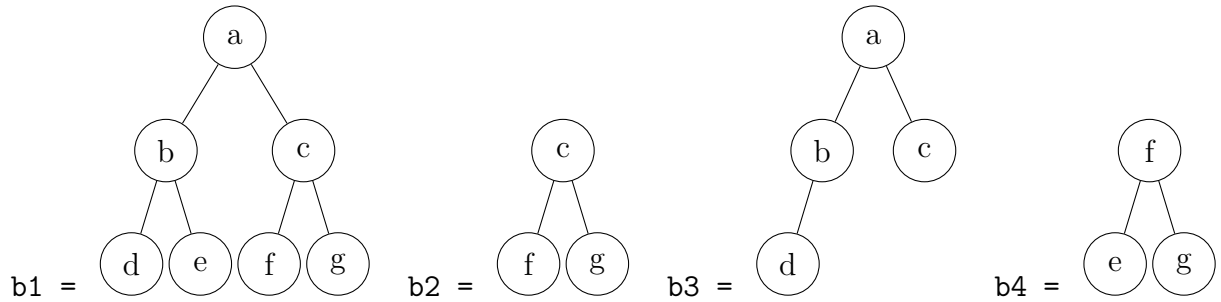
Binary Trees

Implement an instance method for a BinaryTree class which, given another binary tree, determines if the BinaryTree parameter is a subtree of this tree. That is, `this` tree must contain all of the values of the BinaryTree paramter with the same relative structure. These trees are binary trees, but they are not binary search trees.

Complete the following method.

```
// Determines whether "other" is a subtree of "this"
// pre: other != null
// post: Neither tree is altered by this operation
public boolean isSubtree(BinaryTree<E> other) {
```

Here are some sample calls to `isSubtree`:




```
b1.isSubtree(b2) → true      b1.isSubtree(b3) → true
b1.isSubtree(b4) → false     b2.isSubtree(b1) → false
```

You may use the following BinaryTree implementation

```
public class BinaryTree<E>{
  BNode<E> root;
  int size;

  //Nested node class
  private static class BNode<E>{
    BNode<E> left, right;
    E data;
  }
}
```

Do not create any new data structures or use any other Java classes or methods.

```
// Determines whether "other" is a subtree of "this"
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public boolean isSubtree(BinaryTree<E> other) {
```