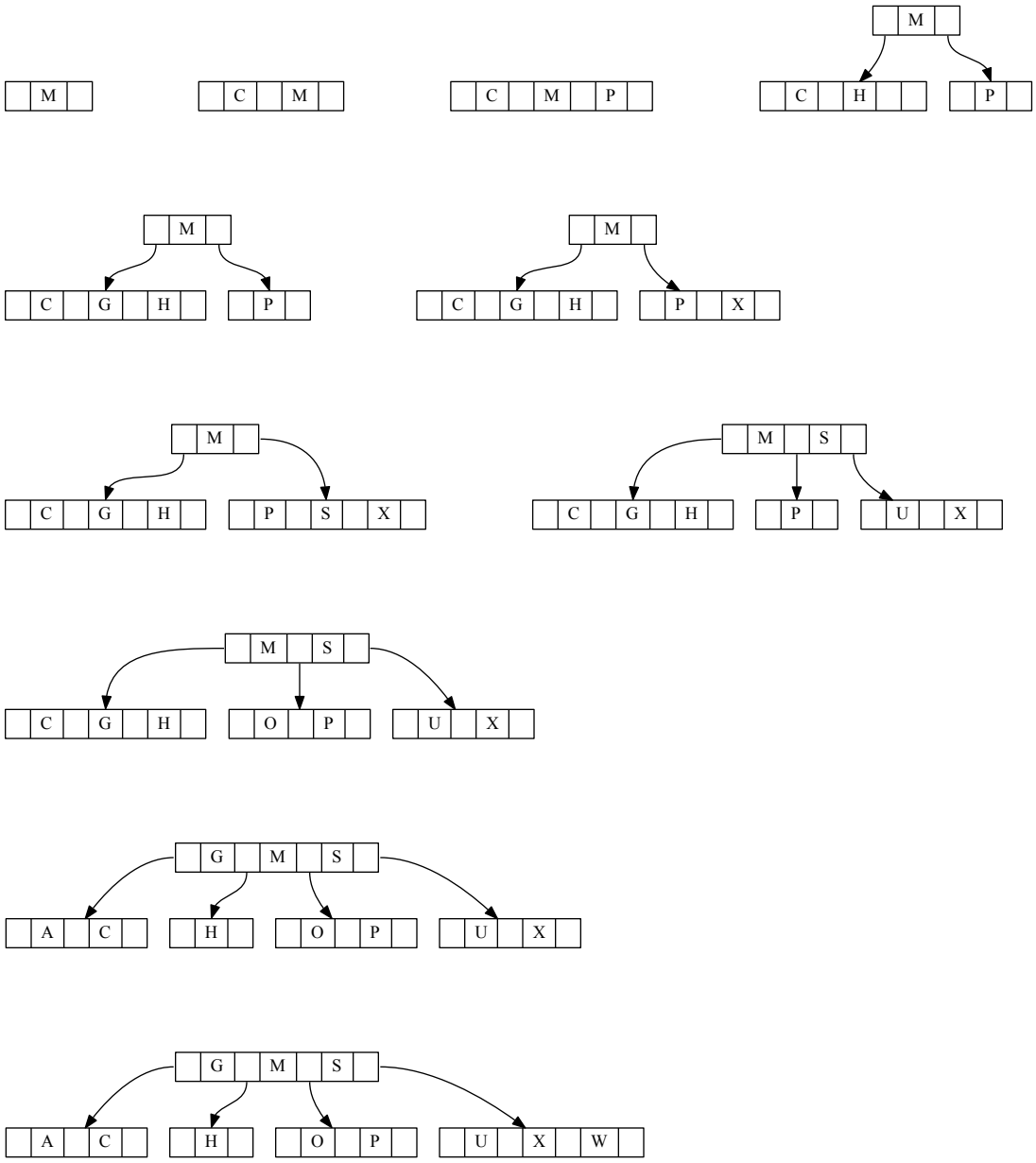
CSCD359 Homework 4, Winter 2012, Eastern Washington University. Cheney, Washington.

Name: Eric Fode **EWU ID:00530214**

Solution for Problem 1



Solution for Problem 2

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sortedTree($treeArray$**)**

Input: A slice of a sorted array
Result: A BST that has a height bounded by $log(n)$

```
1 begin
2     if treeArray.size = 1 then
3         return newnode(treeArray[0]);
4     root = newnode(treeArray[treeArray.size/2]);
5     root.left ⟵ sortedTree(treeArray[0 : treeArray.size/2]);
6     root.right ⟵ sortedTree(treeArray[treeArray.size/2 + 1 : treeArray.size]);
7     return root;
```

Analysis: This should take $O(n)$ time

Solution for Problem 3

Solution for Problem 4