Binary Trees

1. Reminders
   a. Read chapter 12
   b. Homework Friday
   c. Exam 2 April 23. Take-home?

2. Terminology
   a. Directed Graph
   b. Parent:
   c. Child:
   d. Tree:
   e. Binary Tree:
3. Applications of trees

4. Parse Tree Example: \(3 + 4 \times (5 - 6) - 1\)

5. Parse Tree Exercise: \(1 + 7 \times ((3 > 4) \ ? \ 1 : 2)\)

6. Review Linear and Binary Array Search

7. **Binary Search Tree**

8. Binary Search on a Binary Search Tree
   a. Algorithm
   b. Issues

<table>
<thead>
<tr>
<th></th>
<th>Unsorted Array</th>
<th>Sorted Array</th>
<th>Binary Search Tree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert One</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Insert n</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Find</td>
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