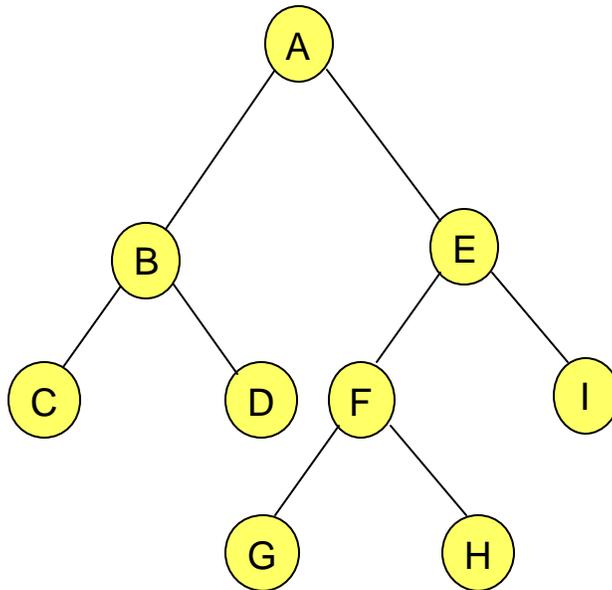


INFSCI 2610 Data Structures
Homework 3
Due: Tuesday, Feb 17, 2004

1. For the following tree write the output of *Inorder*, *Preorder* and *Postorder* traversal [15]



2. Read the recursive and non-recursive versions of the Preorder traversal in the book (Programs 5.15 and 5.16). [35]
- Write the recursive and non-recursive versions for the *Inorder* and *Postorder* traversal.
 - Show how the stack (non-recursive) version for either *Inorder* or *Postorder* traversal (only one) works for the above tree – show the stack content after each visit.
3. Write a recursive algorithm for selection sort. Give recursive complexity expression for your algorithm. [25]
4. Consider the following inputs [25]:
- 1 2 3 4 5 6 7 8 9 10
 - 3 3 3 3 3 3 3 3 3
 - 10 9 8 7 6 5 4 3 2 1

For each of these inputs, state whether *selection* sort or *bubble* sort runs faster.