4) (10 pts) ALG (Binary Trees)
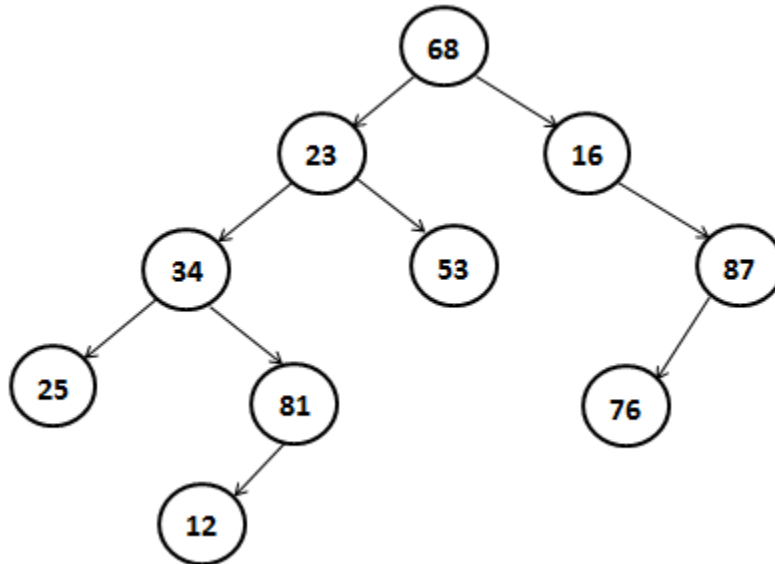
Please give the preorder, inorder and postorder traversal of the binary tree shown below. In addition, determine whether or not the tree is a valid binary search tree.

      Preorder:

Preorder: **68, 23, 34, 25, 81, 12, 53, 16, 87, 76**

Inorder: **25, 34, 12 81, 23, 53, 68, 16, 76, 87**

Postorder: **25, 12, 81, 34, 53, 23, 76, 87, 16, 68**

Is this valid binary search tree?   (Circle your answer.)   YES   **<u>NO</u>**

Grading: 3 pts each traversal - give a total of 5 out of 9 if the traversal names are switched but the answers are the three distinct traversals. Otherwise, give partial as follows - 2 pts if 6-9 items correct, 1 pt if 3-5 items correct, 0 otherwise.