

AQA Computer Science A Level

4.3.2 Tree-traversal

Flashcards

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What is tree-traversal?



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The process of visiting/updating/outputting each node in a tree; it is an algorithm



What is an algorithm?



A set of instructions which completes a task in a finite time and always terminates.



Name the three types of tree-traversal.



Preorder, inorder and postorder.





Name a use of postorder traversal.



- Emptying a tree
- Infix to RPN (reverse polish notation) conversions
- Producing a postfix expression from an expression tree



Which traversal would be used for copying a tree?



Preorder traversal





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Name a use of inorder traversal.



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Outputting the contents of a binary search tree in ascending order





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Can inorder traversal be performed on any tree?



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No, only binary trees (including binary search trees)



Can preorder traversal be performed on any tree?



Yes



Can postorder traversal be performed on any tree?



Yes



Where does tree traversal start?



At the root



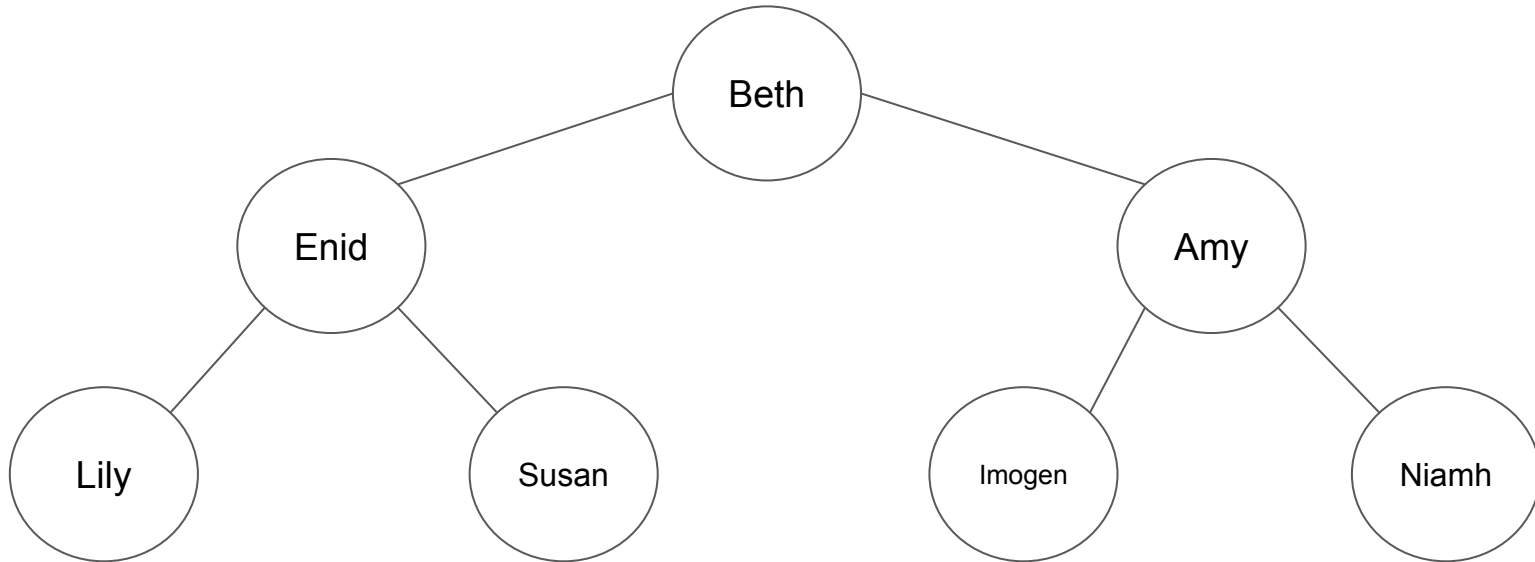
How do traversals work their way around the tree?



Anticlockwise



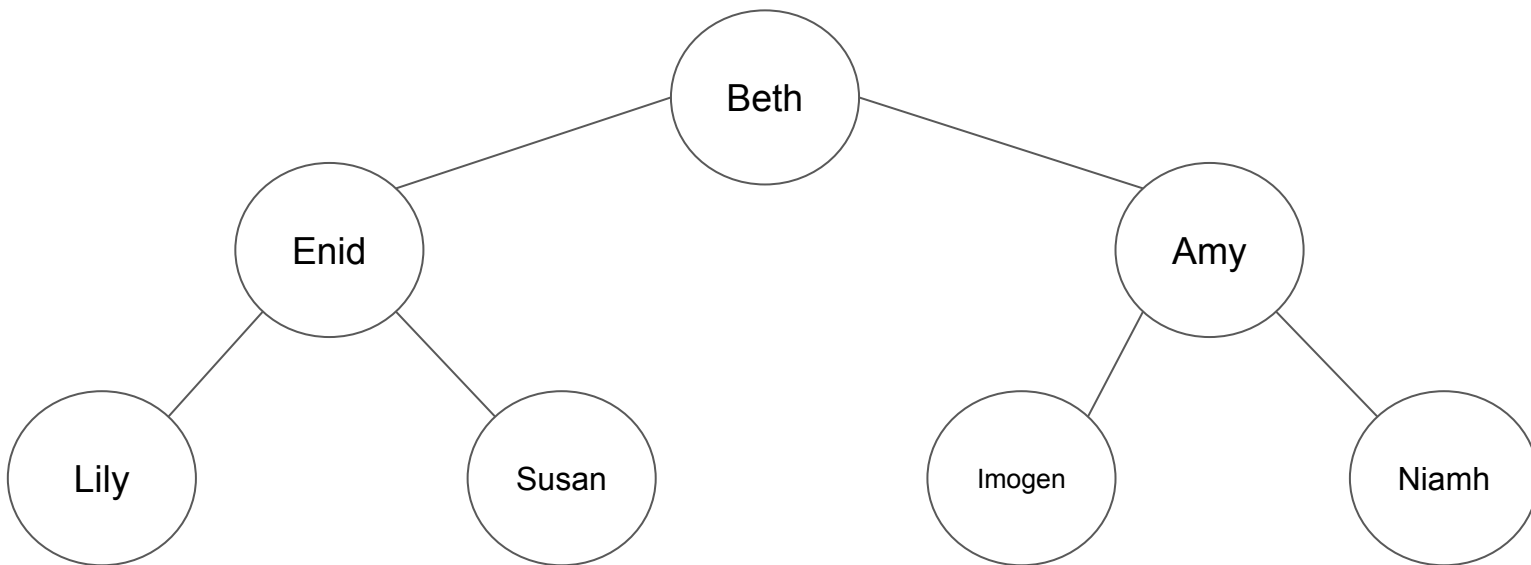
What is the output when an inorder traversal is performed on the tree below?



Lily, Enid, Susan, Beth, Imogen, Amy, Niamh



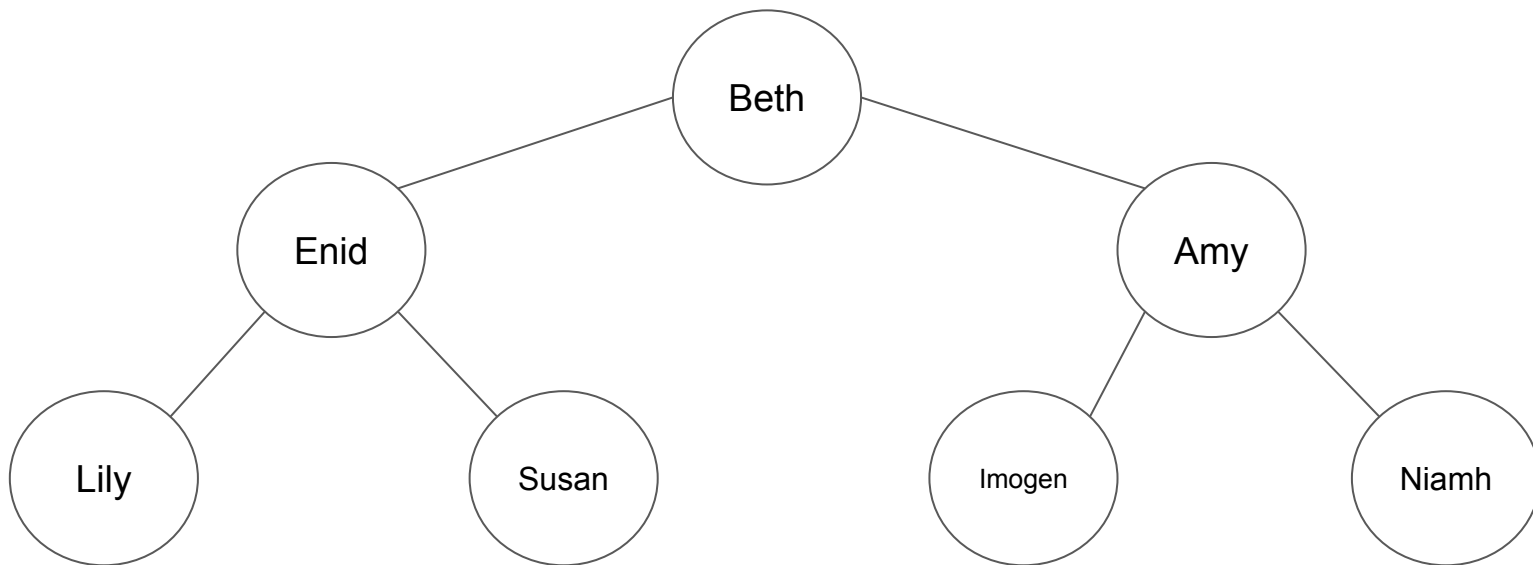
What is the output when a postorder traversal is performed on the tree below?



Lily, Susan, Enid, Imogen, Niamh, Amy, Beth



What is the output when a preorder traversal is performed on the tree below?



Beth, Enid, Lily, Susan, Amy, Imogen, Niamh

