

AQA Computer Science A Level

4.3.1 Graph traversal

Flashcards

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What is an algorithm?



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



What is Graph Traversal?



The process of visiting each vertex in a graph



Name the two types of graph traversal.



Depth-first search and breadth-first search.



Which traversal is best for navigating a maze?



Depth-first search



What is Breadth-first traversal useful for?



Shortest path on an unweighted graph



What abstract data type is used for a breadth-first traversal?



Queue



What abstract data type is used in a depth-first traversal?



Stack



What type of graphs can be traversed?



Connected graphs



Can a tree undergo depth-first traversal?



Yes, although it might be more appropriate to use a tree-traversal

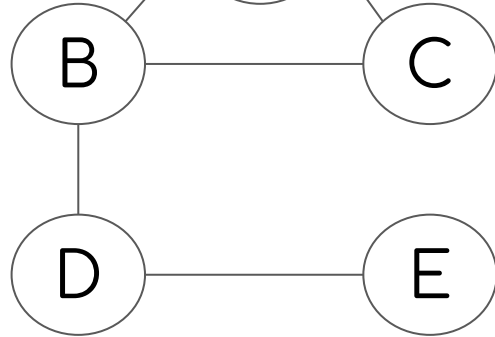


Can a graph traversal start from any node?



Yes.



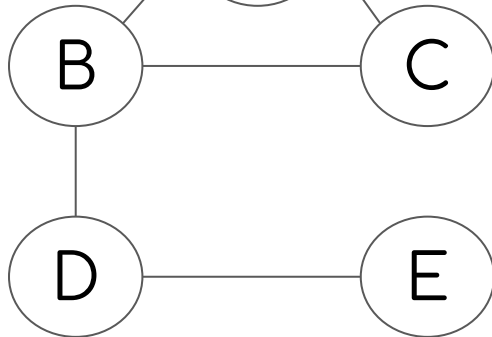


In what order would these nodes be discovered in a breadth-first search? Start from node A.



A B C D E





In what order would these nodes be discovered in a depth-first search? Start from node A.



A B D E C

