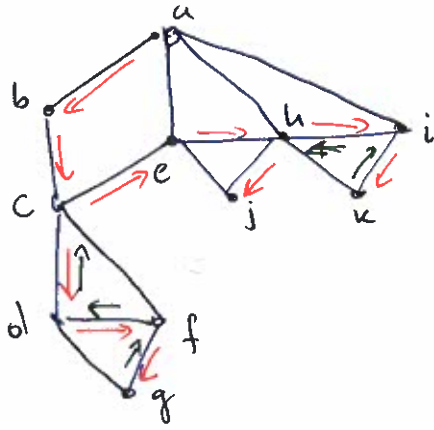


Disc Math - §23 - Traversal Algorithms

①

Task: G - connected graph, find a path that visits each node at least once; this procedure is called **graph traversal**.

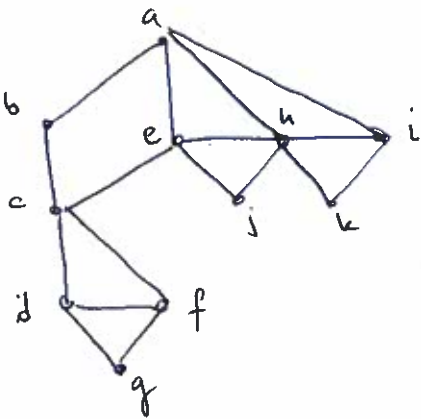
Depth-First Search:



a, b, c, d, f, g, e, h, i, k, j.

- label the nodes $\{a, b, \dots\}$
- when facing choice follow alphabetical order
- start at node a
- visit an unvisited neighbour (in alph. order)
- if there are no more unvisited nodes back up the path, at each node explore new side path.

Breadth-First Search:



- begin at an arbitrary node (a) (level 0)
- visit all nodes adjacent to a (level 1)
- visit all unvisited nodes adjacent to level 1 nodes) etc.

a, b, e, h, i, c, j, k, d, f, g

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4, 10, 14, 20, 36.