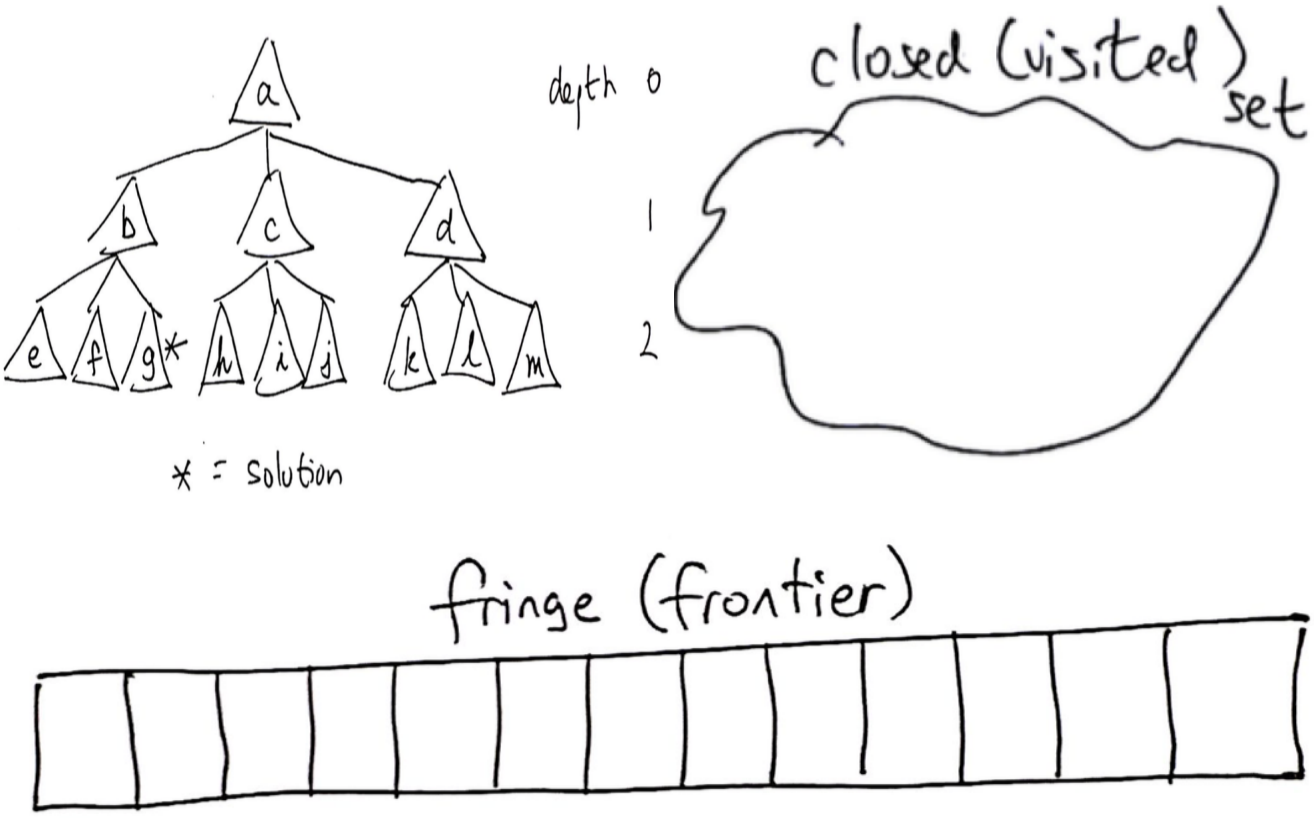
COMP 4200/5430 Artificial Intelligence
GRAPH SEARCH ALGORITHM.

We will carry out the graph search algorithm on our simple search tree from last time. Depending on the data structure used for the fringe, different search algorithms will be produced.



Using the graph search algorithm, perform the search for goal state *g* starting from initial state *a*.

Draw nodes in the Fringe as they are expanded. When they get removed for goal-testing, cross them out. Then put them in the Closed set after they are tested (as states).

Draw nodes as a circle with a letter inside. This is to visually distinguish them from states (triangles).

Treat the Fringe as a last-in, first-out (LIFO) stack. This should produce depth-first search.

When done:

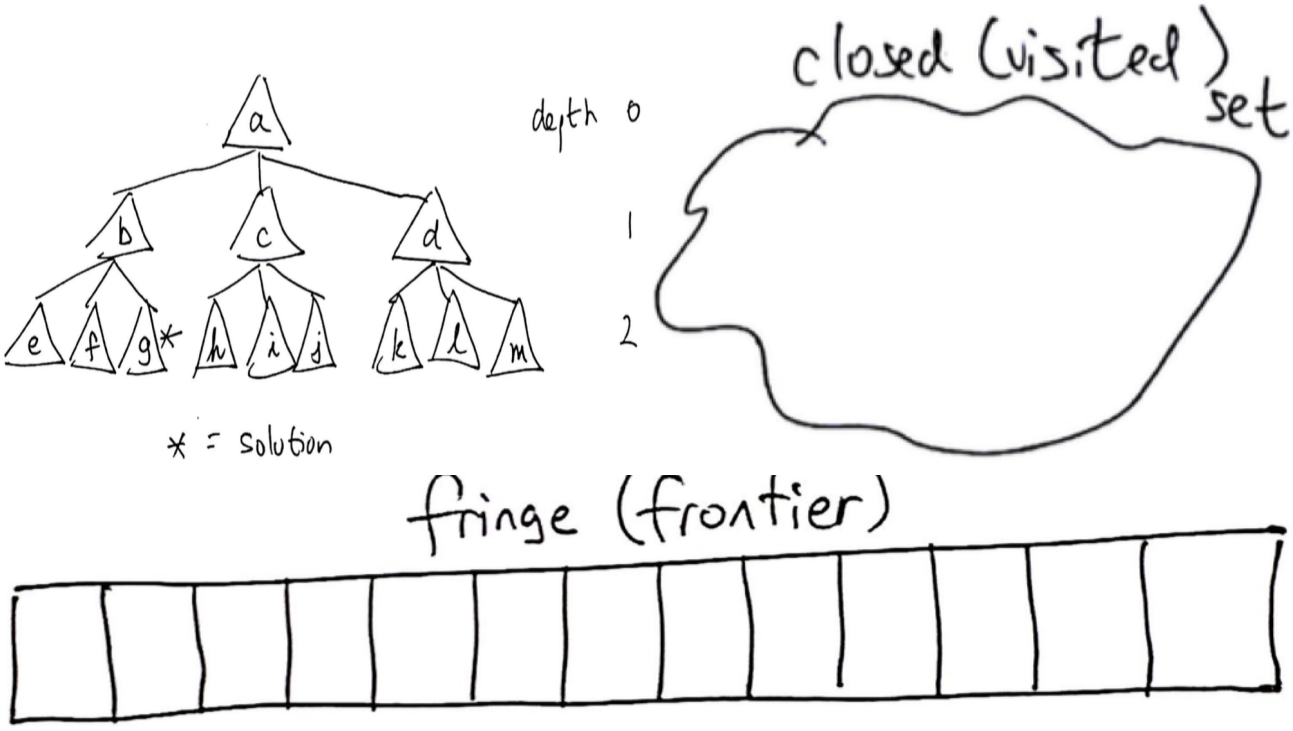
a. What goal node is returned by the algorithm?

b. How many states are in the closed set?

c. Now many nodes remain in the fringe when the algorithm completes?

d. How many states were expanded in total (b + c)?

Now, the Fringe is a first-in, first-out (FIFO) queue. This should produce breadth-first search.



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