Uninformed Search Strategies

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Depth-first Search 深度优先搜索

☐ Search Strategy 搜索策略

Expand deepest unexpanded node.

扩展最深的未扩展节点。

- Note: breadth-first-search expands shallowest unexpanded node.

  注意：宽度优先搜索扩展最浅的未扩展节点。

☐ Implementation 实现方法

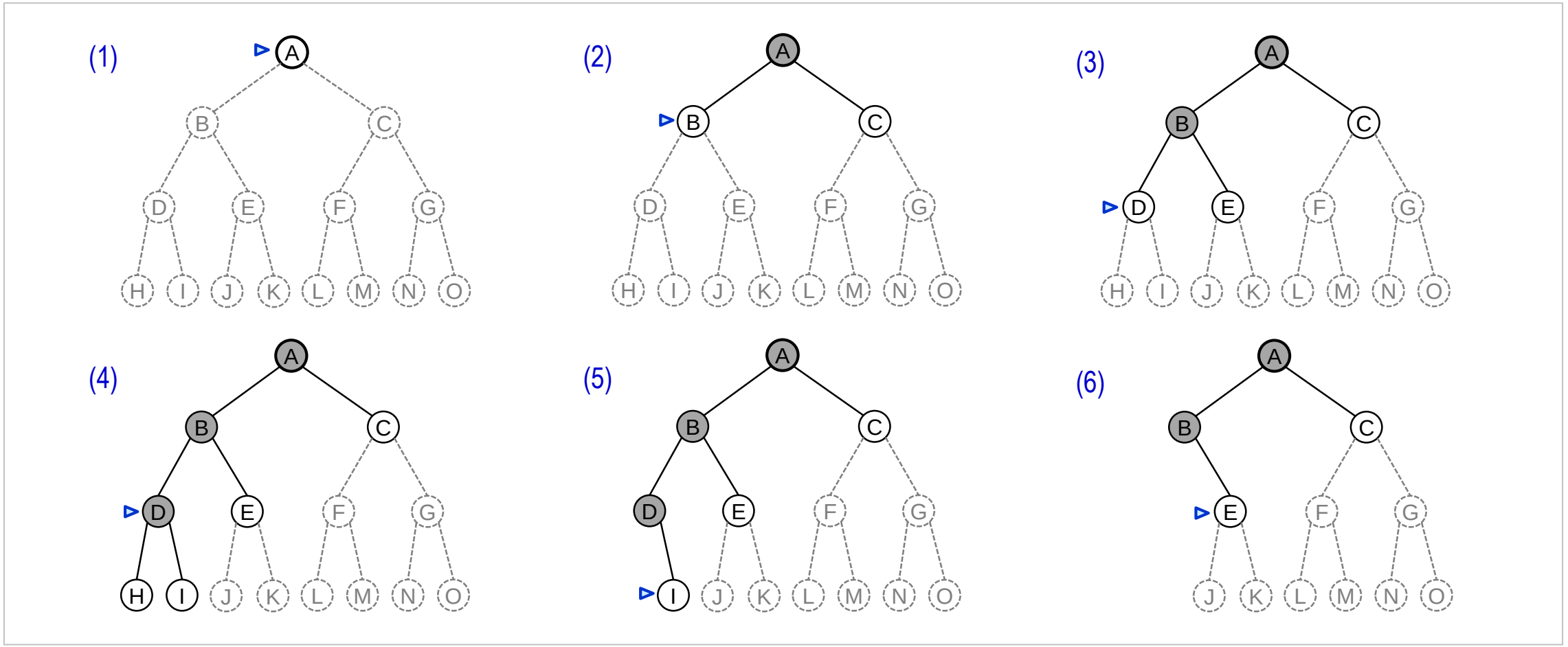
Use LIFO queue, put successors at front.

使用LIFO 队列，把后继节点放在队列的前端。

- Note: breadth-first-search uses a FIFO queue

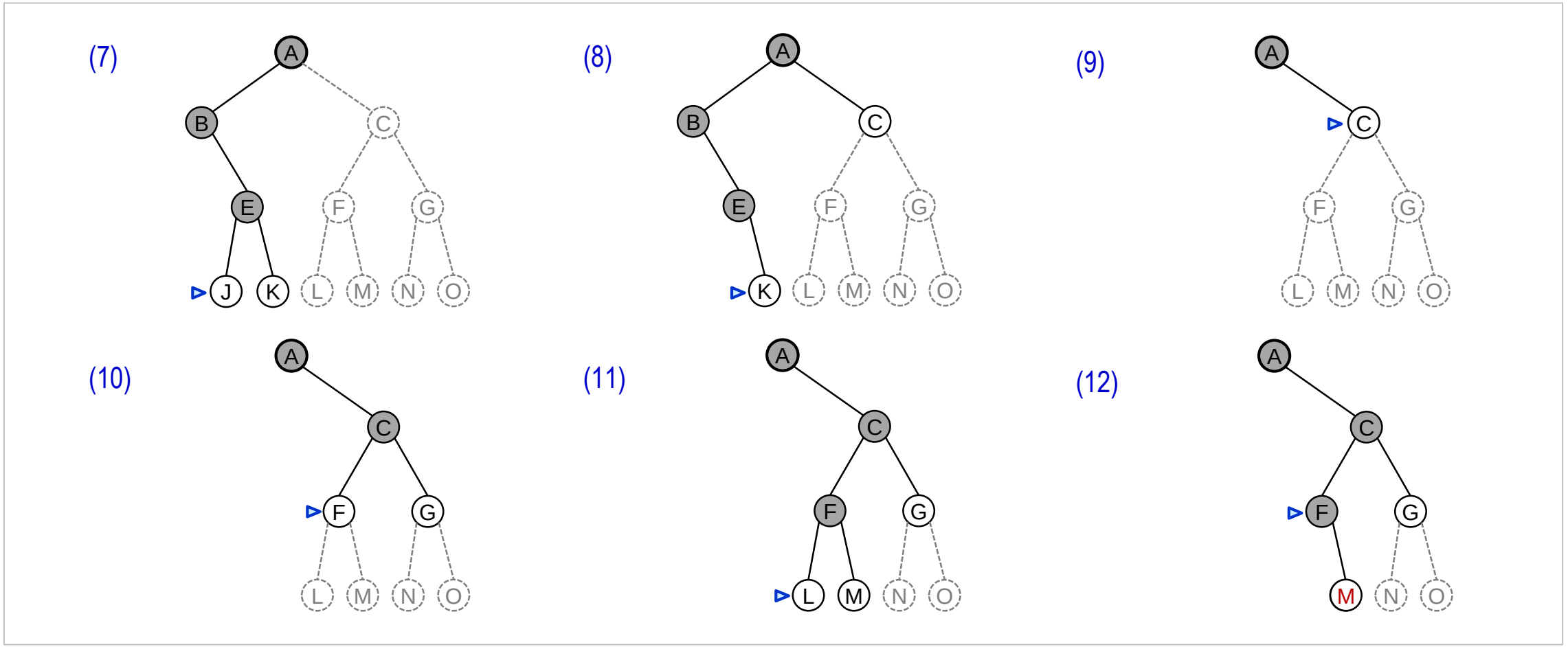
  注意：宽度优先搜索使用FIFO队列。

Depth-first Search on a Simple Binary Tree 简单二叉树的深度优先搜索



Explored nodes with no descendants are removed from memory.

Depth-first Search on a Simple Binary Tree 简单二叉树的深度优先搜索



Nodes at depth 3 have no successors, M is the only goal node.

Properties of Depth-first Search 深度优先搜索的特性

- Time complexity $O(b^m)$

  时间复杂性

- Space complexity $O(bm)$

  空间复杂性

where

- b -- the branching factor

  分支因子

- m -- the maximum depth of any node

  任一节点的最大深度

Thank you for your attention!