

CPSC 322, Practice Exercise

Uninformed Search

1 Directed Questions

- What is meant by search algorithm *completeness*?
- What is meant by search algorithm *optimality*?
- What are the advantages of breadth-first search (BFS) over depth-first search (DFS)?
- What is the advantage of DFS over BFS?

2 Uninformed Search

Consider the search problem represented in Figure 1, where a is the start node and f is the goal node. Would you prefer DFS or BFS for this problem? Why?

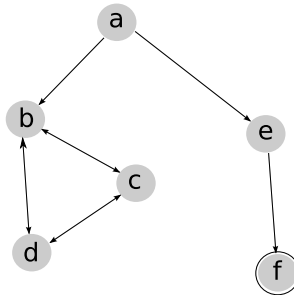


Figure 1: Comparing BFS and DFS

Which sequences of paths are explored by BFS and DFS in this problem?

3 Learning Goals

You can:

- Apply basic properties of search algorithms: completeness, optimality, time and space complexity of search algorithms.
- Select the most appropriate search algorithms for specific problems.