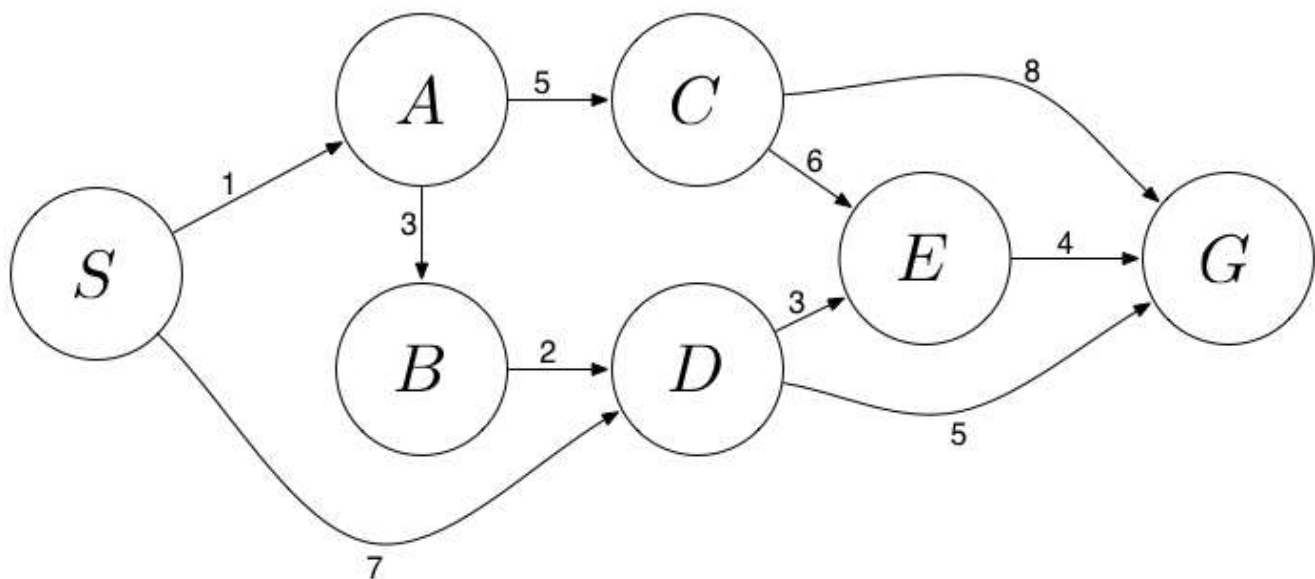


Q1: Search

Problem 1: Search

Part 1



Answer the following questions about the search problem shown above.

Assume that ties are broken alphabetically (so a partial plan $S \rightarrow X \rightarrow A$ would be expanded before $S \rightarrow X \rightarrow B$ and $S \rightarrow A \rightarrow Z$ would be expanded before $S \rightarrow B \rightarrow A$).

Part 1.1

0.0/1.0 point (ungraded)

What path would breadth-first graph search return for this search problem?

☐ $S \rightarrow A \rightarrow B \rightarrow D \rightarrow G$

☐ $S \rightarrow A \rightarrow B \rightarrow D \rightarrow E \rightarrow G$

☐ $S \rightarrow A \rightarrow C \rightarrow G$

☐ $S \rightarrow A \rightarrow C \rightarrow E \rightarrow G$

☒ $S \rightarrow D \rightarrow G$ ✓

☐ $S \rightarrow D \rightarrow E \rightarrow G$

Submit

You have used 0 of 1 attempt

i Answers are displayed within the problem

Part 1.2

0.0/1.0 point (ungraded)

What path would uniform cost graph search return for this search problem?

☒ $S \rightarrow A \rightarrow B \rightarrow D \rightarrow G$ ✓

☐ $S \rightarrow A \rightarrow B \rightarrow D \rightarrow E \rightarrow G$

☐ $S \rightarrow A \rightarrow C \rightarrow G$

☐ $S \rightarrow A \rightarrow C \rightarrow E \rightarrow G$

☐ $S \rightarrow D \rightarrow G$

☐ $S \rightarrow D \rightarrow E \rightarrow G$

Submit

You have used 0 of 1 attempt

i Answers are displayed within the problem

Part 1.3

0.0/2.0 points (ungraded)

What path would depth-first graph search return for this search problem?

☐ $S \rightarrow A \rightarrow B \rightarrow D \rightarrow G$

☒ $S \rightarrow A \rightarrow B \rightarrow D \rightarrow E \rightarrow G$ ✓

☐ $S \rightarrow A \rightarrow C \rightarrow G$

☐ $S \rightarrow A \rightarrow C \rightarrow E \rightarrow G$

☐ $S \rightarrow D \rightarrow G$

☐ $S \rightarrow D \rightarrow E \rightarrow G$

Submit

You have used 0 of 1 attempt

i Answers are displayed within the problem

Part 1.4

0.0/2.0 points (ungraded)

What path would A* graph search, using a consistent heuristic, return for this search problem?

☒ $S \rightarrow A \rightarrow B \rightarrow D \rightarrow G$ ✓

☐ $S \rightarrow A \rightarrow B \rightarrow D \rightarrow E \rightarrow G$

☐ $S \rightarrow A \rightarrow C \rightarrow G$

☐ $S \rightarrow A \rightarrow C \rightarrow E \rightarrow G$

☐ $S \rightarrow D \rightarrow G$

☐ $S \rightarrow D \rightarrow E \rightarrow G$

Submit

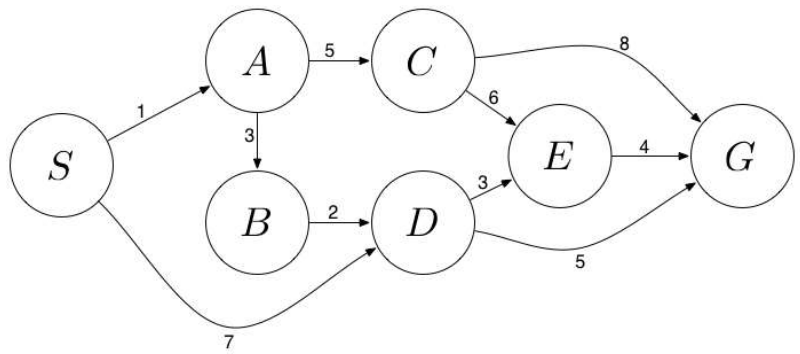
You have used 0 of 1 attempt

i Answers are displayed within the problem

Part 2

Consider the heuristic for this problem show in the table below. The search graph is repeated for your convenience.

State s	$h(s)$
S	9
A	9
B	6
C	7
D	1
E	4
G	0



Part 2.1

0.0/1.0 point (ungraded)

Is h admissible?

☒ Yes ✓

☐ No

Submit

You have used 0 of 1 attempt

i Answers are displayed within the problem

Part 2.2

0.0/1.0 point (ungraded)

Is h consistent?

☐ Yes

☒ No ✓

Submit

You have used 0 of 1 attempt

i Answers are displayed within the problem

Part 2.3

0.0/2.0 points (ungraded)

Which of the following paths would greedy graph search return for the above search problem using the heuristic h ?

☐ $S \rightarrow A \rightarrow B \rightarrow D \rightarrow G$

☐ $S \rightarrow A \rightarrow B \rightarrow D \rightarrow E \rightarrow G$

☐ $S \rightarrow A \rightarrow C \rightarrow G$

☐ $S \rightarrow A \rightarrow C \rightarrow E \rightarrow G$

☒ $S \rightarrow D \rightarrow G$ ✓

☐ $S \rightarrow D \rightarrow E \rightarrow G$

Submit

You have used 0 of 1 attempt

i Answers are displayed within the problem