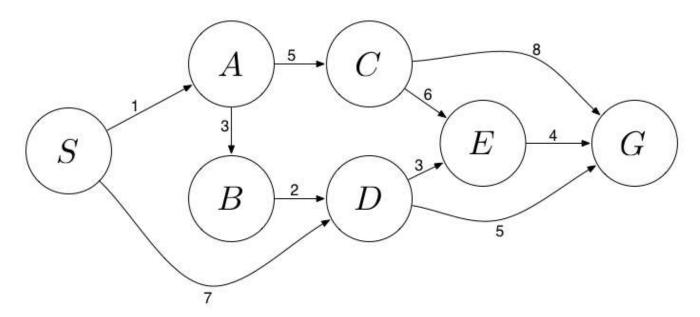


Course > Week 10 > Practic... > Q1: Se...

# 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->X->A would be expanded before S->X->B and S->A->Z would be expanded before S->B->A).

#### Part 1.1

0.0/1.0 point (ungraded)

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

$$\bigcirc S o A o B o D o G$$

$$igcup S 
ightarrow A 
ightarrow B 
ightarrow D 
ightarrow E 
ightarrow G$$

$$lacksquare S 
ightarrow A 
ightarrow C 
ightarrow G$$

$$igcup S 
ightarrow A 
ightarrow C 
ightarrow E 
ightarrow G$$

$$lacksquare S 
ightarrow D 
ightarrow G 
ightharpoonup C$$

$$lacksquare S 
ightarrow D 
ightarrow E 
ightarrow G$$

Submit

You have used 0 of 1 attempt

**1** 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?

$$ullet$$
  $S o A o B o D o G$ 

$$igcup S 
ightarrow A 
ightarrow B 
ightarrow D 
ightarrow E 
ightarrow G$$

$$\circ$$
  $S \rightarrow A \rightarrow C \rightarrow G$ 

$$lacksquare S 
ightarrow A 
ightarrow C 
ightarrow E 
ightarrow G$$

$$\circ$$
  $S o D o G$ 

$\bigcirc$	S	$\rightarrow$	D	$\rightarrow$	$\boldsymbol{E}$	$\rightarrow$	G
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Submit

You have used 0 of 1 attempt

**1** 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?

$$ullet$$
  $S o A o B o D o E o G$ 

$$lacksquare S 
ightarrow A 
ightarrow C 
ightarrow G$$

$$igcup S 
ightarrow A 
ightarrow C 
ightarrow E 
ightarrow G$$

$$lacksquare S 
ightarrow D 
ightarrow G$$

$$lacksquare S 
ightarrow D 
ightarrow E 
ightarrow G$$

Submit

You have used 0 of 1 attempt

**1** 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?

$$\bullet \hspace{0.25cm} S \to A \to B \to D \to G \checkmark$$

$$\bigcirc \hspace{0.1cm} S \to A \to B \to D \to E \to G$$

$$lacksquare S 
ightarrow A 
ightarrow C 
ightarrow G$$

$$igcup S 
ightarrow A 
ightarrow C 
ightarrow E 
ightarrow G$$

$$\circ$$
  $S o D o G$ 

$$lefts$$
  $S o D o E o G$ 

Submit

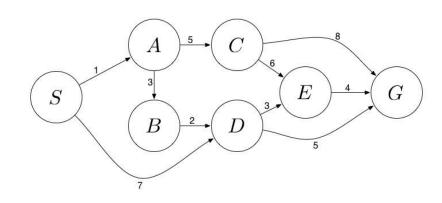
You have used 0 of 1 attempt

**1** 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 <b>s</b>	$h\left( s ight)$		
S	9		
$oldsymbol{A}$	9		
В	6		
C	7		
D	1		
$oldsymbol{E}$	4		
$\boldsymbol{G}$	0		



# Part 2.1

0.0/1.0 point (ungraded) Is  $\boldsymbol{h}$  admissible?

- Yes
- O No

Submit

You have used 0 of 1 attempt

• Answers are displayed within the problem

# Part 2.2

0.0/1.0 point (ungraded) Is h consistent?

Yes

Submit

You have used 0 of 1 attempt

• 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?

- $\bigcirc$  S o A o B o D o G
- igcup S 
  ightarrow A 
  ightarrow B 
  ightarrow D 
  ightarrow E 
  ightarrow G
- lacksquare S 
  ightarrow A 
  ightarrow C 
  ightarrow G
- igcup S 
  ightarrow A 
  ightarrow C 
  ightarrow E 
  ightarrow G
- ullet S o D o G ullet
- igcup S o D o E o G

Submit

You have used 0 of 1 attempt

• Answers are displayed within the problem