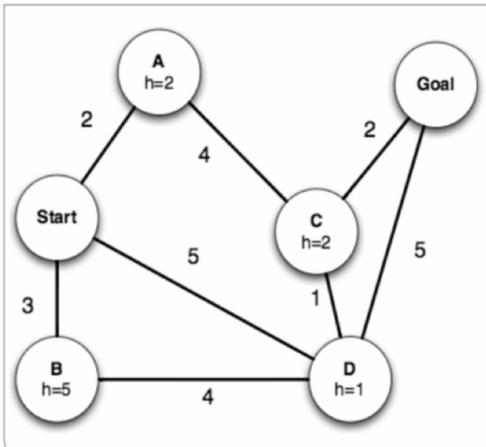


QUESTION 1

Consider the search space of Figure 1, where state Start is the initial state and Goal is the goal state. Assume that the actions are ordered according to their resulting state alphabetically. For example, the action (Start, b) comes before (Start, c). Give:

- After performing DFS graph search, what is the order in which states are expanded



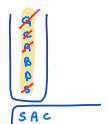
- 1. Start-A-C
- 2. Start-B-D
- 3. Start-D-C
- 4. Start-B-D-C



QUESTION 2

After performing DFS graph search, what is the final frontier list

- 1. C-B top to bottom
- 2. B-C top to bottom
- 3. D-B top to bottom
- 4. B-D top to bottom



1 points Save Answer

QUESTION 3

After performing DFS, what is the solution path.

- 1. Start-A-C-Goal
- 2. Start-B-D-Goal
- 3. Start-D-Goal
- 4. Start-D-C-Goal

1 points Save Answer

QUESTION 4

After performing UCS search, What is the order in which states are expanded.

- 1. Start-A-B-D-C
- 2. Start-B-C-D
- 3. Start-A-B-C-D
- 4. Start-A-C-D

Cost : 8

Path: S-A-C-Goal

1 points Save Answer

QUESTION 5

After performing UCS graph search, what is the cost of the obtained solution

- 1. 12
- 2. 10
- 3. 8
- 4. 6

1 points Save Answer

QUESTION 6

After performing UCS Graph search, what is the solution path.

- 1. Start-D-Goal
- 2. Start-D-C-Goal
- 3. Start-A-C-Goal
- 4. Start-B-D-Goal

1 points Save Answer

QUESTION 7

The obtained solution after performing BFS on Figure 1 is Start, D, Goal.

- True
- False

1 points Save Answer

QUESTION 8

The data structure used to implement BFS is a priority queue.

- True
- False

1 points Save Answer

QUESTION 9

The completeness of an algorithm is guaranteed to find the best solution.

- True
- False

1 points Save Answer

QUESTION 10

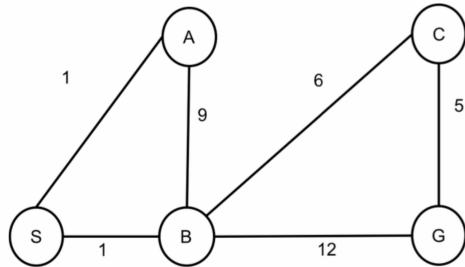
Breadth-first search is a special case of uniform-cost search.

- True
- When all steps have the same cost
- False

1 points Save Answer

QUESTION 11

Consider the following graph, where S is the start state and G is the goal state.



States	h_1
S	7
A	10
B	9
C	5
G	0

After performing A* search (Graph Search) with heuristic h_1 (Ties are broken according to alphabetical order):

What is the obtained solution?

- 1-S,A,B,G
- 2-S,B,C,G
- 3.None of the above.
- 4.S,B,G

Path: S-B-C-G
cost: 12

QUESTION 12

What is the cost of the obtained solution?

- 1.14.
- 2.12.
- 3.13.
- 4.None of the above.

1 points Save Answer

QUESTION 13

What is the order in which states are expanded?

- 1-S,B,A,C
- 2-S,A,B,C
- 3.None of the above.
- 4.S,C,B,A

QUESTION 14

Consider the search problem shown on the left. It has only three states, and three directed edges. S is the start node and G is the goal node. To the right, three different heuristic functions are defined.



choose all admissible heuristics:

- 1. None of the above
- 2. H2
- 3. H3
- 4. H1

10 points Save Answer

QUESTION 15

Choose all consistent heuristics

- H1
- H2
- H3
- None of the above

H2	H3
6 $\frac{2+3+5}{3}$ X	6 $\frac{2+4+6}{3}$ V
3	4 $\frac{4+0+4}{3}$ V
0	0

10 points Save Answer

