



HOMEWORK

UNIVERSITY OF SOUTH CAROLINA

COMPUTER SCIENCE AND ENGINEERING

CSCE 580: Artificial Intelligence Search

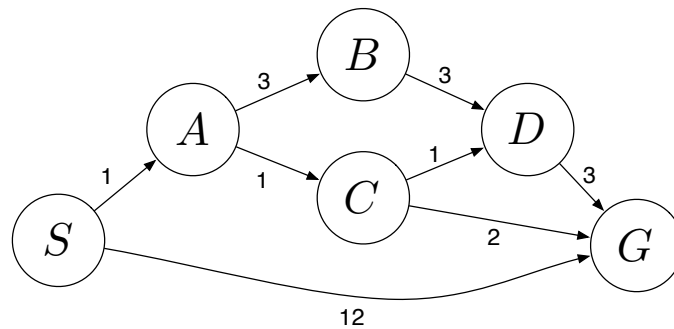
Author:

Your Name (ID: Your USC ID)

Release Date: January 31, 2019

Due Date: Tuesday Feb 5, 11:59 pm

Search



Answer the following questions about the search problem shown above. Break any ties alphabetically. For the questions that ask for a path, please give your answers in the form 'S – A – D – G.'

1. What path would breadth-first graph search return for this search problem?
2. What path would uniform cost graph search return for this search problem?
3. What path would depth-first graph search return for this search problem?
4. What path would A* graph search, using a consistent heuristic, return for this search problem?

5. Consider the heuristics for this problem shown in the table below.

State	h_1	h_2
S	5	4
A	3	2
B	6	6
C	2	1
D	3	3
G	0	0

(a) Is h_1 admissible? **Yes** **No**
Why?

(b) Is h_1 consistent? **Yes** **No**
Why?

(c) Is h_2 admissible? **Yes** **No**
Why?

(d) Is h_2 consistent? **Yes** **No**
Why?