Started on	Thursday, 7 July 2022, 5:05 PM
State	Finished
Completed on	Thursday, 7 July 2022, 5:16 PM
Time taken	10 mins 14 secs
Grade	**20** out of 20 (**100**%)

Question **1**

Correct

Mark 2 out of 2

Select all that apply to Depth First Search

Select one or more:

☑ A. Depth First Search has an exponential time complexity✔   Correct

☑ B. Depth First Search has a Linear Space Complexity✔   Correct

☐ C. Depth First is a Complete Search Algorithm

☐ D. Depth First Search is an informed Search Algorithm

Your answer is correct.

The correct answers are: Depth First Search has an exponential time complexity, Depth First Search has a Linear Space Complexity

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Question **2**

Correct

Mark 2 out of 2

Select all that apply to Breadth First Search

Select one or more:

☐ A. BFS has better space complexity then DFS

☑ B. Breadth First Search is an uninformed(blind) Search Algorithm✔   Correct

☐ C. BFS is optimal

☑ D. BFS is complete✔   Correct

Your answer is correct.

The correct answers are: Breadth First Search is an uninformed(blind) Search Algorithm, BFS is complete

Question 3

Correct

Mark 2 out of 2

Select every option that is true about Uniform Cost Search

Select one or more:

☑ a. When all the edges have the same cost Uniform Cost and BFS are the same✔   Correct

☐ b. Uniform Cost Search is a always a complete Search Algorithm

☐ c. Uniform Cost Search is an informed Search algorithm

☑ d. Uniform Cost Search is optimal✔   Correct

Your answer is correct.

The correct answers are: Uniform Cost Search is optimal, When all the edges have the same cost Uniform Cost and BFS are the same

Question 4

Correct

Mark 2 out of 2

What is the role of a heuristic function in a search algorithm

Select one:

◯ A. It helps to make the algorithm complete

◯ B. Reduces the time complexity of the algorithm

◉ C. It provides an approximation of how promising a node is, when it is going to be expanded✔   Correct

◯ D. Guarantees that the algorithm is optimal

Your answer is correct.

The correct answer is: It provides an approximation of how promising a node is, when it is going to be expanded

Question 5

Correct

Mark 2 out of 2

What makes a Search Algorithm uninformed?

Select one:

- A.   The algorithm is not optimal
- B.   The algorithm is not complete
- C.   The algorithm is very slow
- D.   The algorithm uses only the definition of the problem and does not take advantage of any other knowledge or   ✔   **Correct**
  insight about the problem (Heuristic function)

Your answer is correct.

The correct answer is: The algorithm uses only the definition of the problem and does not take advantage of any other knowledge or insight about the problem (Heuristic function)

Question 6

Correct

Mark 2 out of 2

When is A* Search optimal

Select one:

- A.   When edges have all the same cost
- B.   Always
- C.   When the heuristic function is admissible ✔   Bravo!
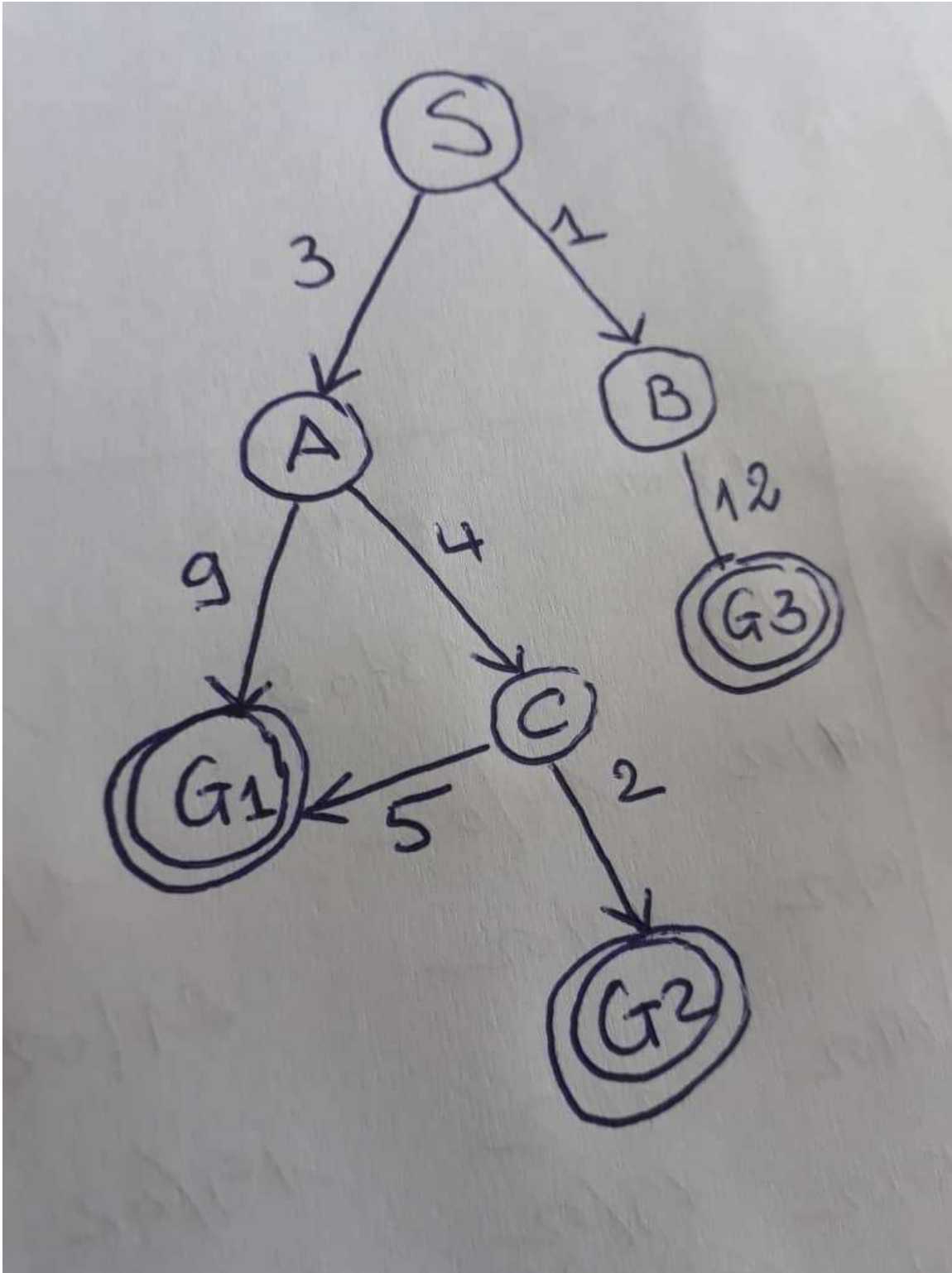- D.   If the costs are all positive

Your answer is correct.

The correct answer is: When the heuristic function is admissible

Question 7

Correct

Mark 2 out of 2

In the following graph, S is the start state and G1, G2 and G3 are all goal states. What goal state could be returned by Uniform Cost Search?

Select one:

A. G1, G2 and G3

B. Only G1

C. Only G2✔   Correct answer
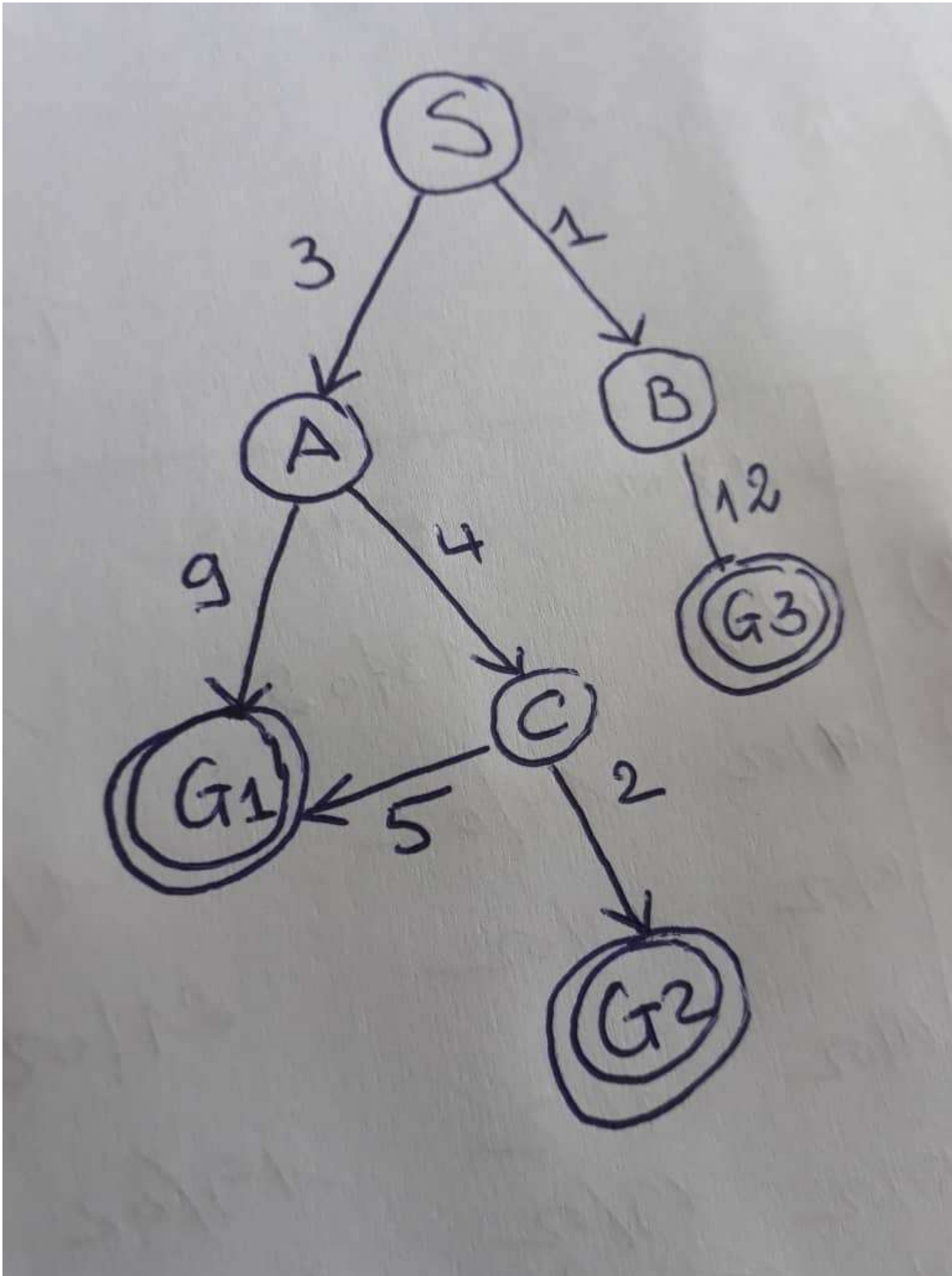
D. G1 and G2

Your answer is correct.

The correct answer is: Only G2

Question 8

Correct

Mark 2 out of 2

What goals could be returned by BFS?

Select one:

○ A. G1 and G2

○ B. Only G2

○ C. Only G1

    ◉ D. G1 and G3✔   Good answer!
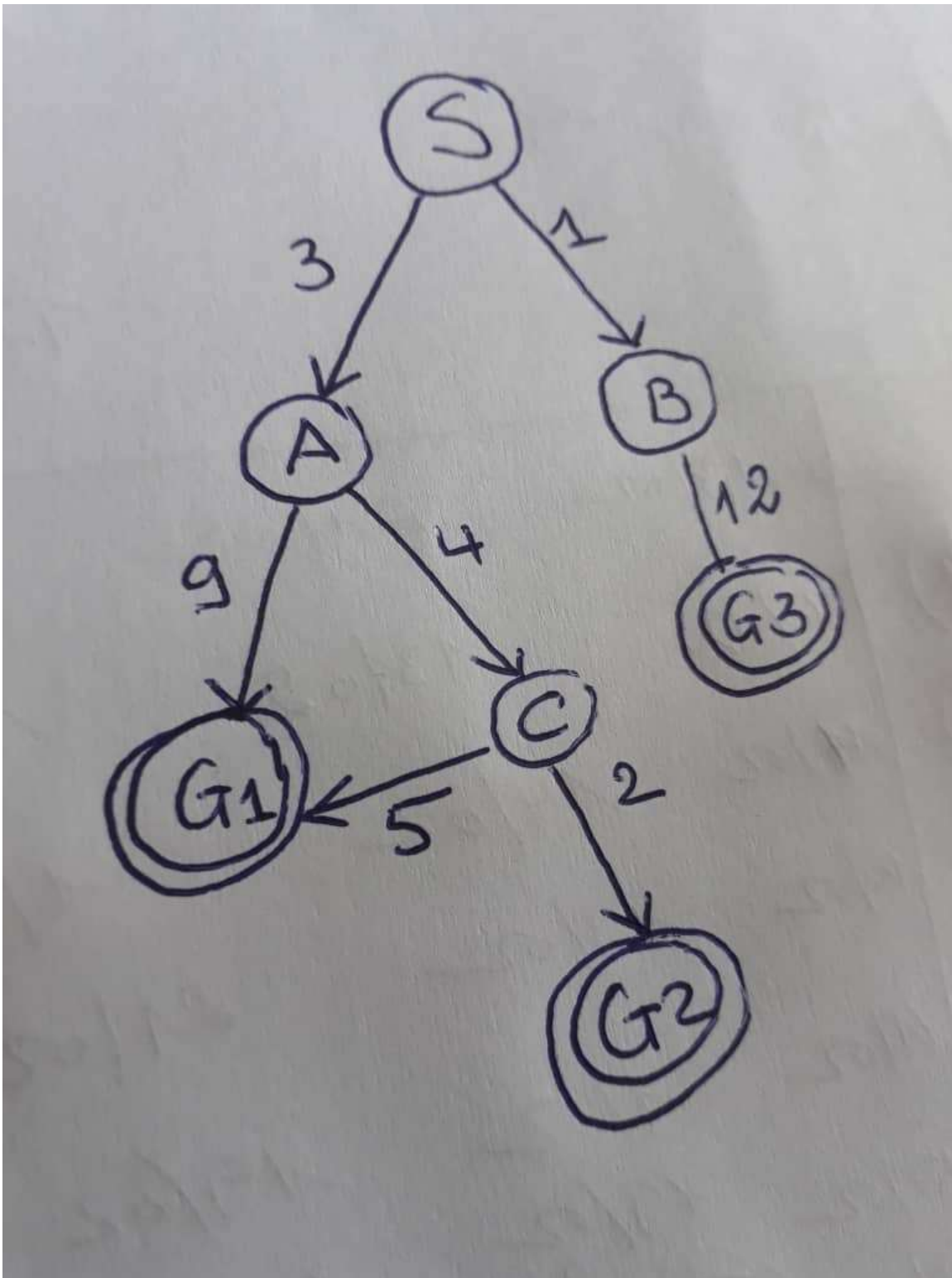

Your answer is correct.

The correct answer is: G1 and G3

Question 9

Correct

Mark 2 out of 2

Which goal state could be returned by A* Search, using an admissible heuristics?

Select one:

○ A. G1 and G3

○ B. Only G3

○ C. Only G1

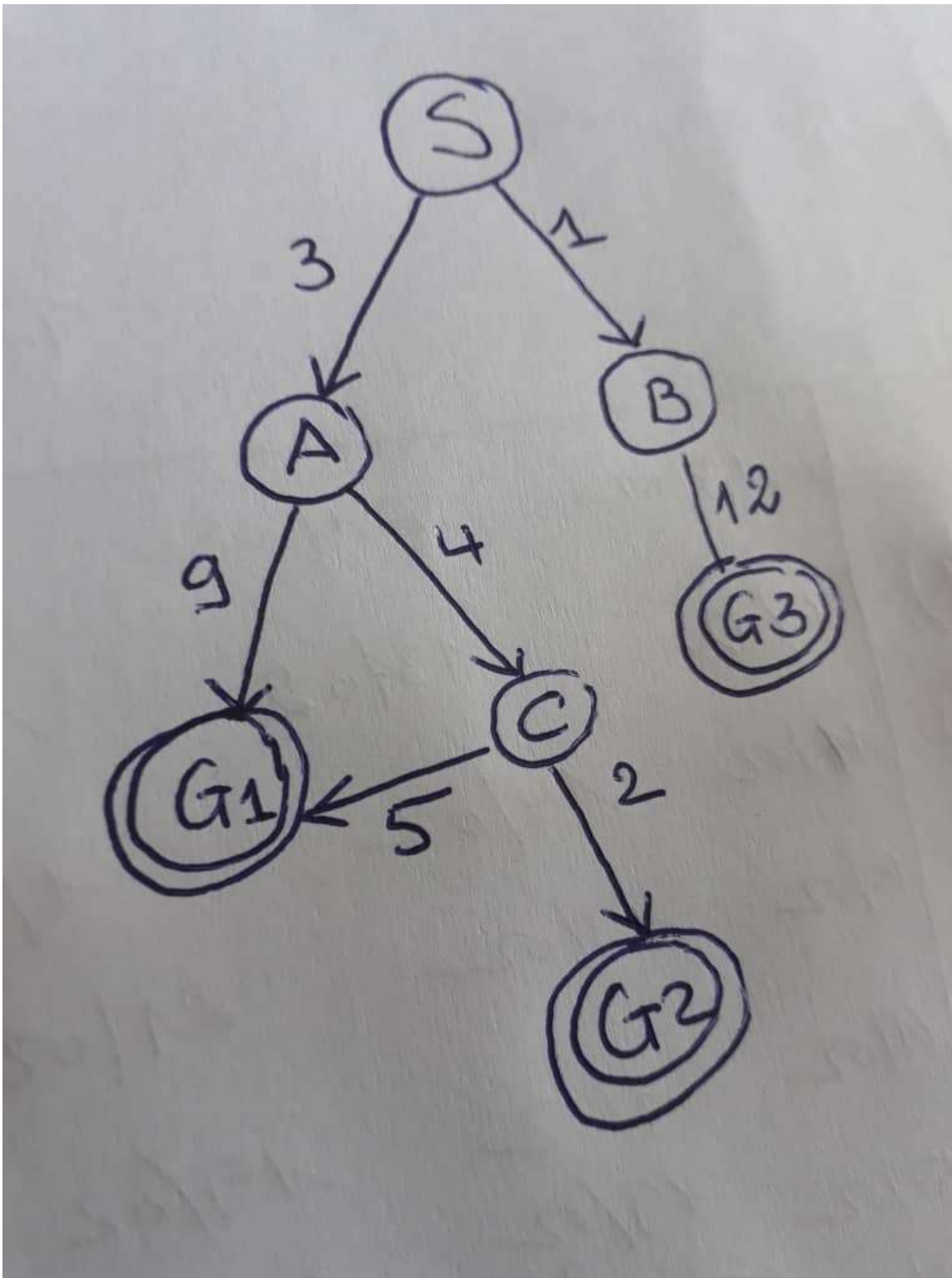◉ D. Only G2✔   Correct

Your answer is correct.

The correct answer is: Only G2

Question 10

Correct

Mark 2 out of 2

Which goal states could be returned by DFS?

Select one:

A. G1, G2 and G3 ✔   Good answer!

B. G2 alone

◯ C. G3 alone

◯ D. G1 alone

Your answer is correct.

The correct answer is: G1, G2 and G3

◀ SEARCHING

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