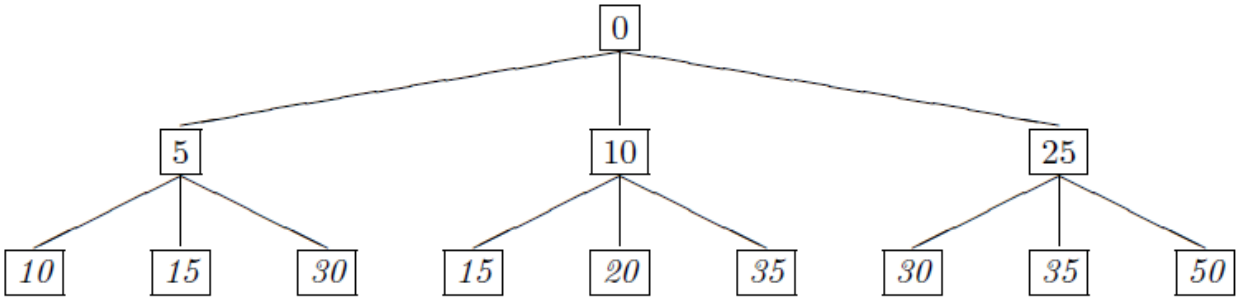
Review Test Submission: Week03 Quiz1 AI Ch03

User	Keerthi Teja Konuri
Course	CS 6364.001 - Artificial Intelligence - F15
Test	Week03 Quiz1 AI Ch03
Started	9/12/15 10:05 PM
Submitted	9/12/15 10:08 PM
Due Date	9/12/15 11:59 PM
Status	Completed
Attempt Score	12 out of 12 points
Time Elapsed	3 minutes out of 45 minutes
Results Displayed	All Answers, Submitted Answers, Correct Answers

Question 1

3 out of 3 points

You are given an unlimited number of coins consisting of nickels (5 cents) dimes (10 cents) and quarters (25 cents). Your task is to get 30 cents with as few coins as possible.
This problem can be described as search, where the decision in each level of the search tree is what coin to choose next. The first two levels of the search tree are shown below, where a left branch indicates a choice of a nickel (5 cents) a center branch indicates the choice of a dime, and a right branch indicates the choice of a quarter. The number written in each node is the total amount. The solution for a goal node (a leaf) is expressed by the path from the top node 0. For example, the solution (trace) of the node 10 at the leftmost and bottom layer is (from the top node): (0, 5, 10).
(Acknowledgment. This is a problem from the lecture note by Dr. Haim Schweitzer for CS6364)



Compute the next level in the search tree for the node 10 (shown in the leftmost and bottom).

Selected Answer: ✓ (0, 5, 10, 15), (0, 5, 10, 20), (0, 5, 10, 35)

Answers:
(0, 5, 10, 15), (0, 5, 10, 20), (0, 5, 10, 25)
✓ (0, 5, 10, 15), (0, 5, 10, 20), (0, 5, 10, 35)
(0, 5, 10, 15), (0, 10, 15, 20), (0, 25, 30, 35)
(0, 5, 10, 35), (0, 5, 10, 20), (0, 5, 10, 15)

Question 2

3 out of 3 points

You are given an unlimited number of coins consisting of nickels (5 cents) dimes (10 cents) and quarters (25 cents). Your task is to get 30 cents with as few coins as possible.

This problem can be described as search, where the decision in each level of the search tree is what coin to choose next. The first two levels of the search tree are shown below, where a left branch indicates a choice of a nickel (5 cents) a center branch indicates the choice of a dime, and a right branch indicates the choice of a quarter. The number written in each node is the total amount. The solution for a goal node (a leaf) is expressed by the path from the top node 0. For example, the solution

(trace) of the node 10 at the leftmost and bottom layer is (from the top node): (0, 5, 10).
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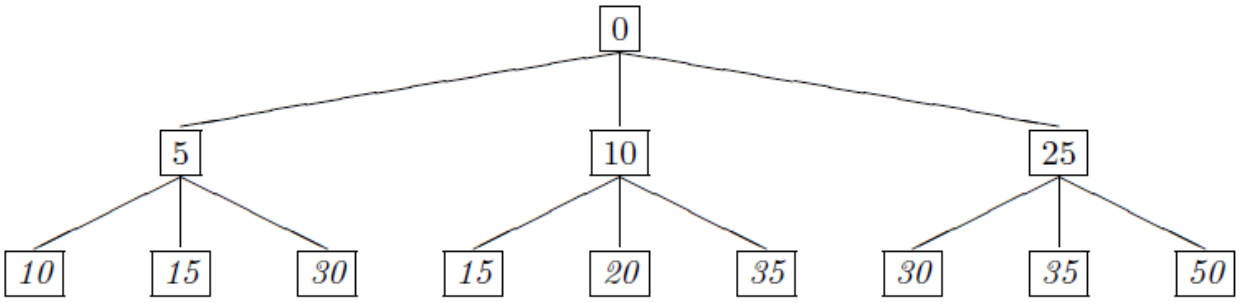

If breadth first search is applied in this problem, the solution found would have ___ nickels (5 cents each), ___ dimes (10 cents each), ___ quarters(25 cents each).

Selected Answer: ✓ 1 nickel and 1 quarter

Answers:
6 nickels
✓ 1 nickel and 1 quarter
2 nickels and 2 dimes
3 dimes and 1 nickel

Question 3

3 out of 3 points

You are given an unlimited number of coins consisting of nickels (5 cents) dimes (10 cents) and quarters (25 cents). Your task is to get 30 cents with as few coins as possible.
This problem can be described as search, where the decision in each level of the search tree is what coin to choose next. The first two levels of the search tree are shown below, where a left branch indicates a choice of a nickel (5 cents) a center branch indicates the choice of a dime, and a right branch indicates the choice of a quarter. The number written in each node is the total amount. The solution for a goal node (a leaf) is expressed by the path from the top node 0. For example, the solution (trace) of the node 10 at the leftmost and bottom layer is (from the top node): (0, 5, 10).
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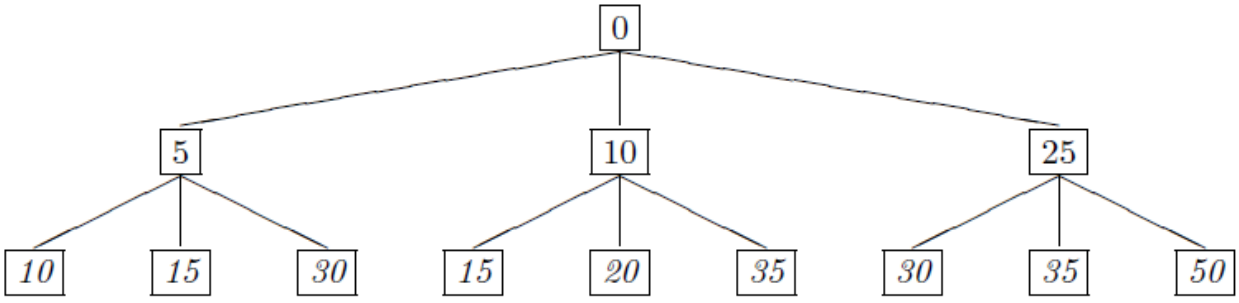

There are two goal nodes in the above tree. What is the path of one of the solutions from the top node?

Selected Answer: ✓ (0, 5, 30)

Answers:
(0, 5, 10)
✓ (0, 5, 30)
(0, 10, 35)
(0, 25, 50)

Question 4

3 out of 3 points

You are given an unlimited number of coins consisting of nickels (5 cents) dimes (10 cents) and quarters (25 cents). Your task is to get 30 cents with as few coins as possible.
This problem can be described as search, where the decision in each level of the search tree is what coin to choose next. The first two levels of the search tree are shown below, where a left branch indicates a choice of a nickel (5 cents) a center branch indicates the choice of a dime, and a right branch indicates the choice of a quarter. The number written in each node is the total amount. The solution for a goal node (a leaf) is expressed by the path from the top node 0. For example, the solution

(trace) of the node 10 at the leftmost and bottom layer is (from the top node): (0, 5, 10).
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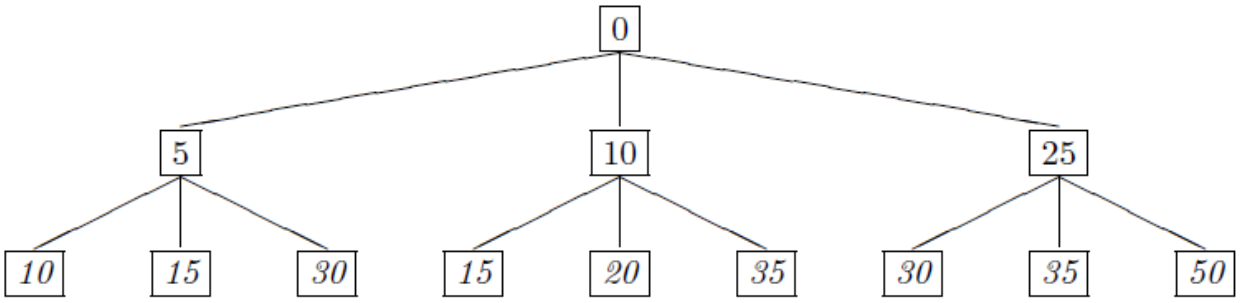

There are ___ leaves in the above tree that are not the goal (solution) and need not be expanded any further.

Selected Answer: ✓ 3

Answers:
0
1
2
✓ 3
7

Tuesday, October 6, 2015 4:49:44 PM CDT

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