

CSPB 3202 - Truong - Artificial Intelligence

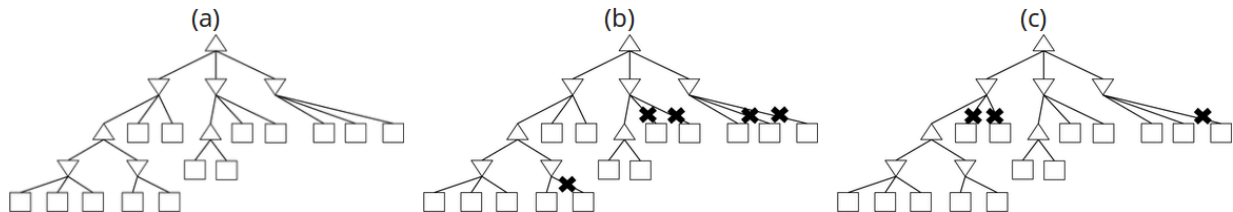
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Started on Thursday, 13 June 24, 7:38 PM**State** Finished**Completed on** Thursday, 13 June 24, 7:39 PM**Time taken** 1 min 42 secs**Marks** 3.00/3.00**Grade** 10.00 out of 10.00 (100%)

Question 1

Correct

Mark 1.00 out of 1.00

Assume we run alpha-beta pruning, expanding successors from left to right, on a game with tree as shown in Figure (a) below. Which of the following statements are true? (Select all that apply)



Select one or more:

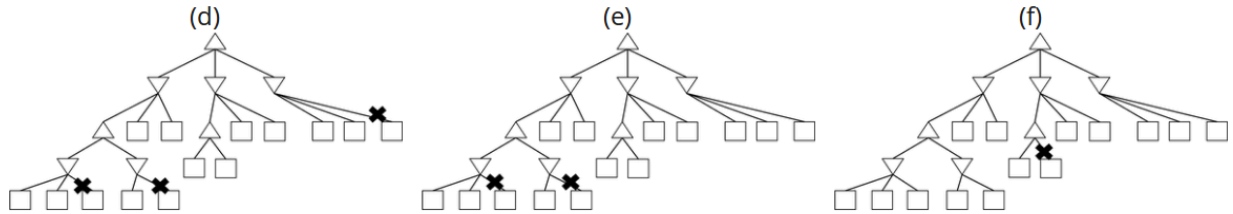
- ☒ a. There exists an assignment of utilities to the terminal nodes such that no pruning will be achieved (shown in Figure (a)). ✓
- ☒ b. There exists an assignment of utilities to the terminal nodes such that the pruning shown in Figure (b) will be achieved. ✓
- ☐ c. There exists an assignment of utilities to the terminal nodes such that the pruning shown in Figure (c) will be achieved.
- ☐ d. None of the above.

Question 2

Correct

Mark 1.00 out of 1.00

Assume we run alpha-beta pruning, expanding successors from left to right, on a game with tree as shown in Figures below. Which of the following statements are true? (select all that apply)



Select one or more:

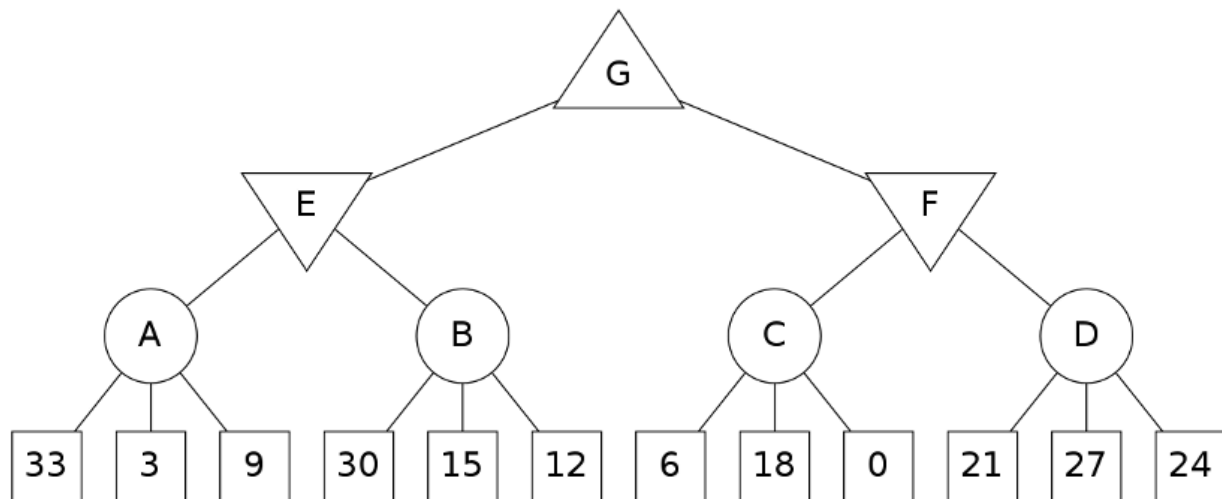
- ☐ a. There exists an assignment of utilities to the terminal nodes such that the pruning shown in Figure (d) will be achieved.
- ☐ b. There exists an assignment of utilities to the terminal nodes such that the pruning shown in Figure (e) will be achieved.
- ☐ c. There exists an assignment of utilities to the terminal nodes such that the pruning shown in Figure (f) will be achieved.
- ☒ d. None of the above. ✓

Question 3

Correct

Mark 1.00 out of 1.00

Consider a game tree as shown below. Regular triangles, inverted triangles, and circles represent max nodes, min nodes, and chance nodes respectively. What is the value at the root node G? Assume that chance nodes has actions with equal probabilities.



Answer: 15 ✓