

6.034 QUIZ 2 SOLUTIONS
FALL 2000

(Preliminary – without Explanations)

Problem 1: Miscellaneous (30 points)

This problem is first because other problems were judged to take three to four times as long. Circle the **single** phrase that **best** completes the following fragments. All multiple votes will be rejected.

Progressive deepening, also known as iterative deepening, works well for games because:

- Alpha-beta allows you to go twice as deep in a given game tree.
- The branching factor varies from layer to layer.
- Almost none of the nodes in a game tree of a given depth are in the final layer.
- **Almost all the nodes in a game tree of a given depth are in the final layer.**
- All of the above.
- None of the above.

Alpha-beta:

- Doubles the speed of minimax.
- Is slower than minimax.
- Is incompatible with minimax.
- Is incompatible with progressive deepening
- All of the above.
- **None of the above.**

The topological sorting algorithm was developed to:

- Improve run time speed.
- Ensure precedence is determined by the up-to-join principle.
- Deal with loops in the inheritance tree.
- **Honor ordering principles.**
- All of the above.
- None of the above.

Frames have been used to:

- Enable sentence understanding.
- Enable story understanding.
- Enable metaphor understanding.
- Enable default reasoning via inheritance.
- **All of the above.**
- None of the above.

A key virtue of the transition-space representation is that it:

- Subsumes thematic role frames and primitive-act frames.
- Can be translated to relational-database records.
- Enables the description of states.
- Facilitates the understanding of metaphors.
- All of the above.
- None of the above.

A key virtue of the thematic-role frame representation is that it:

- Expresses all actions in terms of a few primitive acts.
- Enables description at the story level.
- Focuses on variable-value changes.
- Captures causal relations.
- All of the above.
- None of the above.

A key virtue of semantic-transition-tree grammars is that they:

- Reduce the number of words that need to be understood.
- Simplify grammar construction by substituting recursion for explicit loops.
- Exploit the rete algorithm.
- Exploit transition-space representation.
- All of the above.
- None of the above.

Natural language database interfaces work because processed noun phrases most often become:

- Relational join operations.
- Relational selection operations.
- Relational projection operations.
- Relational sorting operations.
- All of the above.
- None of the above.