CSCI 330 Fall 2004

Quiz 1

Assigned Tuesday, 04-08-31

Here is a quote from: Laskey, Kathryn Blackmond and Suzanne M. Mahoney. "Network Engineering for Agile Belief Network Models." *IEEE Transactions on Knowledge and Data Engineering*, vol.12, no.4 (July/August 2000), pp.487–497.

> The literature on evaluation distinguishes between verification and validation. *Mystery1* is concerned with measuring the degree with which a system meets the specifications for which it was designed. *Mystery1* of belief network models includes evaluating factors such as correctness of algorithms, functional completeness of the knowledge base, speed of processing, and satisfaction of interface requirements with other systems. *Mystery1* should also include checking the extent to which the design, coding, and documentation of the system meet organizational standards. *Mystery2* measures the extent to which the system meets the operational needs for which it was designed. At the current stage of our own knowledge base, we have had limited opportunity to perform *mystery2*.

Which of *mystery1* and *mystery2* is verification? Which one is validation?
Answer: *mystery1* is verification, *mystery2* is validation.

Here is a quote from: Lee, Edward E. "What's Ahead for Embedded Software?" *Computer*, vol.33, no.9 (September 2000), pp.18-26.

> No universal concurrent framework has yet emerged . . . To understand why, consider the *mystery* framework, a universally accepted model of sequential computation. A key part of its success is that it reduces time to a total order of discrete events, in which sequencing is sufficient for correctness. In distributed systems, maintaining such a total order is expensive, except for very small systems. Thus, in practice, events are partially ordered at best. This partial ordering makes it difficult to maintain a global notion of "system state," which is an essential part of the *mystery* framework.

Choose *mystery* from the following list:

1. functional
2. Turing
3. von Neumann
4. Zuse

5. declarative

Answer: von Neumann