December 2004

CS 112 J. Pustejovsky

You are to formulate the rules for getting a degree in the Computer Science Department. Think about them at statements in Modal Logic, but then try to convert them to the logic of temporal queries that we have been presenting in class.

Write the appropriate schemas for the tables and relations that you will need. For example, you will need take, course, and so forth.

- 1. You must take 8 courses from the CS department. $\lambda x \lambda y.(COUNT(take(x, y)) = 8)$
- 2. You must take 2 theory classes, 2 AI classes, and 2 system classes. $\lambda x \lambda y.(COUNT(take(x, y)) = 2 \wedge type(y, theory)) \wedge (repeat for AI, systems)$
- 3. You cannot take two systems classes at the same time. (or) You cannot get credit for more than one systems class per semester.
- 4. cs21a is a prerequisite for cs21b. $\lambda x.(take(x, cs21b) \rightarrow P(take(x, cs21a)))$
- 5. cs35b is a prerequisite for cs111b. $\lambda x.(take(x, cs111b) \rightarrow P(take(x, cs35b)))$
- 6. cs35b is a prerequisite for cs112b. $\lambda x.(take(x, cs112b) \rightarrow P(take(x, cs35b)))$
- 7. You must take 29b in order to take cs30b. $\lambda x.(take(x, cs30b) \rightarrow P(take(cs29b)))$
- 8. If you take cs127, then you must take cs128 within 2 semesters.
- 9. 2 undergraduate CS classes counts for 1 graduate class.
- 10. All theory classes require you to have taken cs29b. $\lambda x \lambda y.((take(x, y) \land type(y, theory)) \rightarrow P(take(x, cs29b)))$