CMSC210 (Fall 2003) Comprehensive Exercise Self-Evaluation Form

Module / Problem	C / Circle: 1 2 3		
Your name			
Group member(s) [if multiple, circle the person you analyzed]			
Self-evaluation (between 0 and 10)		Adjustment by the instructor	

Self-evaluation instructions

General idea: Your self-evaluation and the instructor's adjustment must be based on both (i) your understanding demonstrated by your exercises and (ii) **your ability to analyze other students' exercises**.

Evaluation partner: If you are in a two-person group, exchange your exercises. If you are in a three-person group, rotate your exercises so that each one of you has someone else' exercise to analyze.

For **each subquestion** of this problem,

- Analyze your partner's answer with respect to (i) relevant performance goal(s) (included below) and (ii) correctness. To do (i) efficiently during the workshop, you must have a good idea about which performance goal(s) is/are relevant to the problem.
- Interview your partner and analyze whether s/he indeed understands what is written.
- Write your analysis on **your** evaluation form.
- Your analysis must primarily refer to your partner's **written** answer and the partner's understanding with respect to the written answer. If your partner demonstrates understanding beyond or less than what is written, note the difference. Since you will be on both sides of this process, when you do the exercises, you must try your best so that other students in class can understand your writing.
- In the past evaluations, many students wrote their answers were similar, even though they are actually different. Such a statement cannot be taken as a demonstration of strong analytical skills.

Note: Your critical analysis of your partner's answer will be part of **your** evaluation, but ***not*** part of your partner's evaluation. Thus, it will be your best interest to be as critical as possible. In order for you to do this without potentially hurting your partner's feeling, you are requested ***not*** to show your self-evaluation forms to other students during/after the workshop. Only the instructor will cross-reference your analyses.

Performance goals:

1. Model a variety of real-world phenomena as mathematical structures.
    a. This is the focus of Module C. So, you will need to discuss this goal sufficiently.
    b. Identify the following structures in the take-home exercises and make sure that you understand all of them: operational, relational, structures like **Max**, **Strings**, or **Clock**, digraph, poset, Boolean Algebra, digraph, undirected graph, weighted graph, tree, language, FSA (when viewed as a structure).
    c. To do this, you will also need to know how to represent structure components formally (focus of Module B, prerequisite for Module C).
2. Analyze whether a mathematical structure satisfies a collection of logical statements.
    a. There are many examples where a *collection* of structures satisfies logical statements. Identify some of them.
3. Specify mathematical structures using logical statements.
    a. We used this technique to specify a *collection* of structures (instead of a particular structure). In fact, this is how we defined many of the concepts (i.e., structures) introduced in Module C.
4. Analyze, distinguish, and relate mathematical structures with respect to their components and the properties associated with the components.
    a. We compared structures many times. The strongest form of matching is "isomorphism." In many other cases, we compared structures based on the properties of relations/functions. Yet another form of comparison was finding equivalence between different types of structures.
5. Identify cases where (i) different set of logical statements satisfy the same mathematical structures, and (ii) a set of logical statements satisfies multiple mathematical structures including unintended ones.
    a. The subgoal (ii) is inherent in the specification of collections of structures.
    b. The subgoal (i) is discussed explicitly in, e.g., Unit C5.

~~6. Convince others that the modeling process is logically sound, using proofs and other methods of justification.~~