Name (PRINTED): ______________________

Student ID #: ______________________

Section # (or TA's: name and time) ______________________

CMSC 250 Quiz #2 Wednesday, Feb. 1, 2006

Write all answers legibly in the space provided. The number of points possible for each question is indicated in square brackets – the total number of points on the quiz is 30, and you will have exactly 15 minutes to complete this quiz.

1. [15 points] Create a complete truth to represent the following statement: $(p \wedge \sim (\sim q \vee p)) \wedge (r \wedge \sim q)$. Be sure to include all needed rows and columns and be sure to use the "1" and "0" where "1" represents true and "0" represents false. (rather than T and F).

2. [3 points] What can you say about the truth values of this statement by looking at the results of the truth table - compare when it it true and when false.

3. [3 points]Indicate the location or locations in the truth table that led you to this conclusion and explain (in one sentence) why you described it as you did.

↓ TURN OVER ↓

4. [6 points] Given the following atomic propositions, express each compound statement using only these letters and the $\wedge$ (and), $\vee$ (or) and $\sim$ (not) operators. Assume the four people listed here are all of the people we are discussing.

   - a = "Alice runs fast"
   - b = "Bob runs fast"
   - c = "Carol runs fast"
   - d = "Dan runs fast"

   a. Nobody can run fast.

   b. Alice is the only one that can run fast.

   c. Somebody can run fast.

   d. Everybody can run fast.

5. [3 points] Give the alias under which you would like your grades posted. If you do not want your grades posted, give the alias "NONE". If you give an alias, it will only be known to the instructors, TAs and yourself. This way you will be able to keep track of your grades and how you compare to other students without revealing which student has which grades.

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