CSC 300: Assignment 1B
Total: 40 pts

You may want to consult the solutions to the odd numbered problems (at the end in the textbook) immediately preceding the problems below, for hints.

6th edition

1. (5+5 pts) Exercise 46 under 1.1 (page 20). This problem is about logical thinking. Just argue in plain English, you do not need to work out a formal procedure for the solution.
2. (5pts) Exercise 56 under 1.1 (page 20). Follow the procedure shown in class.
3. (10 pts) Exercise 63 under 1.1 (page 21). Follow the above procedure for knight-and knave problems, to reach your conclusions. No credit if this procedure is not followed, e.g., simple verbal argument will receive no credit. *Hint: if you find a F in any column in a row, you may skip the remaining columns in that row, since we are looking for rows with all columns=T.*
4. (5 pts) Simplify the following formula, using De-Morgan’s laws and other relations from among tables 6, 7, 8 (pages 24-25). No credit if De-Morgan’s laws are not used.
   \[ \neg p \land ( p \Rightarrow q) \Rightarrow \neg q \]
5. (5+5 pts) Exercises 22 and 28 under 1.2 (page 29).

7th edition

1. (5+5 pts) Exercise 16 under 1.2 (page 23). This problem is about logical thinking. Just argue in plain English, you do not need to work out a formal procedure for the solution.
2. (5pts) Exercise 20 under 1.2 (page 23). Follow the procedure shown in class.
3. (10 pts) Exercise 35 under 1.2 (page 24). Follow the above procedure for knight-and knave problems, to reach your conclusions. No credit if this procedure is not followed, e.g., simple verbal argument will receive no credit. *Hint: if you find a F in any column in a row, you may skip the remaining columns in that row, since we are looking for rows with all columns=T.*
4. (5 pts) Simplify the following formula, using De-Morgan’s laws and other relations from among tables 6, 7, 8 (pages 27-28). No credit if De-Morgan’s laws are not used.
   \[ \neg p \land ( p \Rightarrow q) \Rightarrow \neg q \]
5. (5+5 pts) Exercises 22 and 28 under 1.3 (page 35).