CSCI 1323 (Discrete Structures), Spring 2003
Homework 1

Assigned: January 21, 2003.

Due: January 28, 2003, at 5pm.

Credit: 30 points.

1 Problems

Do the following problems. You do not need to turn in answers for the ones marked "Not to turn in". Most such problems will be those for which the textbook provides an answer in the back of the book, so you can check your work.

1. (Not to turn in) Do problem 5 on p. 14 of the textbook.
2. (Not to turn in) Do problem 8 on p. 15 of the textbook.
3. (4 points) Using letters for the component statements, translate the following statements into symbolic notation:
   (a) Either it is raining or it is not raining.
   (b) If it is raining and the convertible's top is down, the seats will get wet.
   (c) Joe will graduate this year if and only if he passes all his courses this semester.
   (d) Either Jane will pass all her courses and graduate or she will start her own company.
4. (Not to turn in) Do problem 14, parts (a) and (b), on p. 16 of the textbook.
5. (Not to turn in) Do problem 17, part (c), on p. 16 of the textbook.
6. (4 points) Verify distributive property 3a on p. 8 of the textbook *by constructing truth tables.*
7. (4 points) Do problem 20 on p. 16 of the textbook.
8. (4 points) Do problem 23 on p. 17 of the textbook.
9. (Not to turn in) Do problem 37 on p. 19 of the textbook. First translate the English sentences into symbolic notation.
10. (Not to turn in) Do problem 10 on p. 30 of the textbook.
11. (Not to turn in) Do problem 13 or problem 15 on p. 31 of the textbook.
12. (Not to turn in) Do problem 21 on p. 30 or problem 27 on p. 32 of the textbook.
13. (Not to turn in) Do problem 31 on p. 32 of the textbook.
14. (7 points) Do problem 32 on p. 32 of the textbook.
15. (Not to turn in) Do problem 42 on p. 32 of the textbook.
16. (7 points) Do problem 40 on p. 32 of the textbook.