

CSci 1302 Assignment 1

Due Wedn., September 14th in class

Problem 1 (10 points). Rewrite the following sentences as logical statements. Show the simple (atomic) propositions you are using to construct the atomic ones. In some cases it may not be obvious whether English “or” is used inclusively or exclusively. Explain which one you are using and why. Use symbols \sim, \wedge, \vee .

Example the sentence “Today it will rain or snow” can be written as $p \vee q$, where p = “today it will rain”, q = “today it will snow”.

1. I live and study in Morris.
2. I go to the library to read or relax.
3. Either it doesn't rain, or the party will be indoors.
4. The bookstore is not open today.
5. The bookstore is closed today.
6. Mary and Jane are on the swimming team.
7. Jim is taking Math and either Computer Science or Biology.
8. Jane either is a Math major or she isn't.
9. I may not be on the soccer team this year, but if I am, I'll be the goal-keeper.
10. Either Mary goes to UMM and her sister doesn't, or the other way around.

Problem 2 (4 points). Exercises 15, 17 on p. 16.

Problem 3 (6 points). Exercises Exercises 20, 22, 24 on p. 16.

Problem 4 (3 points). Exercises 30, 36, 38 on p. 16.

Problem 5 (12 points). Exercises 46, 49, 51 on p. 16.