# MATH 2112/CSCI 2112, Discrete Structures I
## Winter 2007
## Toby Kenney
### Homework Sheet 2′
### Due in: Wednesday 31st January, 1:30 PM

Some students said they didn't understand what I was asking on question 2 of assignment sheet 2, and that they could have done the question if they had understood what I was asking. In future, if you don't understand what a question is asking, email me (tkenney@mathstat.dal.ca) or visit me in my office hours.

What the question was asking was for you to write out the negations of the given sentences (in full English sentences) in such a way that the negation is inside the quantifiers. For example, a sentence like: "All students in this course will get 'A's." could be negated as "Not all students in this course will get 'A's.", but in this negation, the negative is still outside the quantifier. I want the sentences written in such a way that the negation is (logically) inside every quantifier. (If it occurs after the quantifier in the sentence then it will usually be logically inside that quantifier.) See the model solutions to Sheet 2 Question 2 for more examples of what I mean.

Here are some more sentences for you to try again. If you score better on these than on Sheet 2, Question 2, I'll give you the mark from this question instead.

(a) Every student understands all the questions on the homework sheet.

(b) Dr. Kenney is the best lecturer. [Hint: This sentence implicitly has a quantifier in it – think about the meaning of the word 'best'.]

(c) There is a student who can do all the homework questions.