

1. *Assignment 3*
 - a. *Equivalences and Partitions* routine exercise 3.
 - b. *Equivalences and Partitions* substantial problems 1, 5.
 - c. Read the *Partially Ordered Sets* unit. In particular, prepare to discuss routine exercise 2. I'll cover this material in lecture 4. Locate and read related material in Stoll [1963] 1979.
 - d. Read Tarski [1946] 1995, chapter 1. In particular, be prepared to discuss its exercises 5, 7, 8, 9f, 10.
2. *In class*
 - a. You should be enrolled to receive e-mail news from the Department's Graduates or Majors list servers. I receive that from the former, but not the latter. I won't normally repeat that news in class.
 - b. You should learn how to use your Internet browser off-campus to access information for which our library pays a fee. Check the library home page to find out how to do this. It uses the term *database* to refer to things we call books and journals.
 - c. I collected assignment 1. But some students had just added the course, so I postponed posting and discussing its solutions until they turn theirs in at the beginning of the next meeting.
 - d. I asked for some responses to the collective nouns exercise, and we laughed about them. Some military terms proved useful. We'll finish that during the next meeting.
 - e. I responded to questions about the *Need For a Rigorous Set Theory* unit.
 - i. Some methods for avoiding contradiction alternative to the one followed in this course restrict the syntax of the language used to express set theory. You'll see that our informal language we use informally can be translated into a formal *first-order* language. Those alternatives either restrict all the statements used or just those statements Φ used in the context $\{x : \Phi\}$. One method of restriction, called *stratification*, is to require that it be possible to assign all variables in Φ numerical indices so that whenever an expression $x \in y$ occurs in Φ the index of y is one higher than that of x . Stratification prevents Russell's use of the expression $x \notin x$ to form a set.
 - ii. Such alternative methods have all proved cumbersome enough that mathematicians generally ignore them. When pressed, most will claim that they are operating within the Zermelo-Fraenkel set theory presented in this course. (But most don't really care much about such distinctions!)
 - f. We discussed *Basic Set Theory* routine exercises 10, 16, 17b:
 - i. For exercise 16, you need to prove $X - Y = Y \Leftrightarrow X = Y = \phi$.
 - ii. For 17b: if $\neg X$ existed, then $X \cup (\neg X)$ would be a universal set.