

CHAPTER 01

SECTION 1.2, EXERCISE 17:

QUESTIONS:

When three professors are seated in a restaurant, the hostess asks them: "Does everyone want coffee?" The first professor says: "I do not know." The second professor then says: "I do not know." Finally, the third professor says: " No, not everyone wants coffee . " The hostess comes back and gives coffee to the professors who want it. How did she figure out who wanted coffee?

SOLUTION:

The question was "Does everyone want coffee?" If the first professor did not want coffee, then he would know that the answer to the hostess's question was "no." Therefore we-and the hostess and the remaining professors-know that the first professor does want coffee. The same argument applies to the second professor, so she, too, must want coffee. The third professor can now answer the question. Because she said "no," we conclude that she does not want coffee. Therefore the hostess knows to bring coffee to the first two professors but not to the third.