Getting familiar with . . . operators
A. Identify the following English sentences as expressing simple or complex claims. If a claim is complex, say whether it is a conjunction, disjunction, negation, conditional, or bi-conditional.

1. "If the clock is broken in this room tomorrow, I'll scream."

2. "That is not the same movie we were just talking about."

3. "Eating the right kinds of foods builds muscles and doing so helps your immune system."

4. "You have to do it or else you'll get into trouble."

5. "You should join the club."

6. "You'll make the team, if you pass the tests."

7. "You have to take the final exam if and only if your grade is less than an *A* going into the final exam."

8. "It would be necessary to invent one, if there were no god."

9. "Either the universe is only thousands of years old or the geologists are right."

10. "In 1969, on space flight Apollo 11, the first humans walked on the moon."

11. "You are a lawyer if you are a barrister."

12. "That liquid is water if and only if it is H 2 O."

13. "He's either a doctor or he's just wearing a white coat."

14. "The market price of gold has risen substantially over the past two decades."

15. "That is not what Special Theory of Relativity implies."

B. These last five complex claims are trickier because they involve more than one operator. See if you can figure out whether the major operator is a conjunction, disjunction, negation, conditional, or bi-conditional.

1. "If the case goes to trial, then the lawyer gets his day in court and we get to tell the whole story."

2. "If it rains tomorrow, then we can either go to the mall or hang out here."

3. "He will arrive and she will arrive shortly thereafter if and only if the dog stays and the cat goes."

4. "There is no food left and we do not have any money."

5. "There are three candidates and one of them is qualified if and only if her previous employer verifies her work history."