Using a Venn diagram to illustrate a conditional statement can also help you determine whether an argument leads to a valid conclusion.

Suppose this conditional is true:

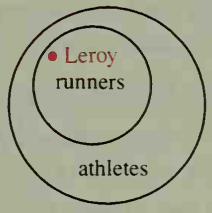
All runners are athletes.
(If a person is a runner, then that person is an athlete.)

What can you conclude from each additional statement?

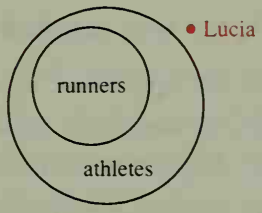
1. Leroy is a runner.
2. Lucia is not an athlete.
3. Linda is an athlete.
4. Larry is not a runner.

The conditional is paired with the four different statements as shown below.

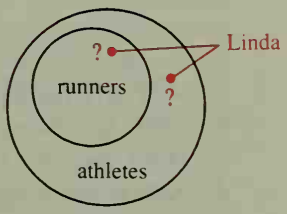
1. *Given:* If p, then q; All runners are athletes.
   p Leroy is a runner.
   Conclusion: q Leroy is an athlete.



2. *Given:* If p, then q; All runners are athletes.
   not q Lucia is not an athlete.
   Conclusion: not p Lucia is not a runner.



3. *Given:* If p, then q; All runners are athletes.
   q Linda is an athlete.
   No conclusion follows. Linda might be a runner or she might not be.



4. *Given:* If p, then q; All runners are athletes.
   not p Larry is not a runner.
   No conclusion follows. Larry might be an athlete or he might not be.