U = Luke will be upset with Rick.
R = Rick will help Luke.
E = Everything will work out.

If Luke wants help and Rick doesn’t want to help him, Luke will be upset with Rick.

Unless Luke doesn’t want help, Rick will help him and everything will work out.

If Luke does not want help, then if Rick does want to help Luke, he won’t.

If Rick doesn’t help Luke if he wants help, not everything will work out.

Luke won’t be upset with Rick if he wants help but Rick doesn’t give it.

Either Luke wants help or he doesn’t; either way, everything will work out.

Either Rick helps Luke or Luke will be upset with Rick; either way, everything will work out.

Without Rick helping him, Luke will be upset with Rick.

Everything will work out, even if Luke wants help.

Unless Luke doesn’t want help, if Rick won’t help him, Luke will be upset with Rick.


Luke will be upset with Rick if and only if Luke wants help and Rick won’t help him.

The only way Luke will be upset with Rick is if he wants help and Rick doesn’t give it.

Unless everything will work out if Rick wants to help Luke, Luke will be upset with him.
M = Miles plays the trumpet.
C = Coltrane plays the tenor sax.
A = Cannonball plays the alto sax.
B = Bill plays the piano.
P = Paul plays the bass.
J = Jimmy plays the drums.

I = Miles played at Birdland.
R = Coltrane played at Birdland.
D = Cannonball played at Birdland.
L = Bill played at Birdland.
U = Paul played at Birdland.
N = Jimmy played at Birdland.

If Miles plays the trumpet, then Miles played at Birdland.

Bill plays the piano only if Coltrane plays the tenor sax.

Although Jimmy plays the drums, Paul plays bass only if Cannonball plays the alto sax.

Bill and Miles played at Birdland only if Jimmy and Paul played there, too.

Of the six musicians, viz., Miles, Coltrane, Cannonball, Bill, Paul, and Jimmy: if all played at Birdland, then either Cannonball plays the alto sax, or Bill plays the piano.

If neither Jimmy nor Paul played at Birdland, then Miles didn't play there either.

Either Coltrane or Cannonball played at Birdland, or neither of them did.

Unless Jimmy plays the drums, he did not play at Birdland.

Miles and Coltrane played at Birdland, and Bill played there too if and only if he plays the piano.

If Jimmy, Paul, and Miles all played at Birdland, then, although, Miles plays the trumpet, Miles either does not play trumpet or he did not play at Birdland.
Either Jason and Chris ran or Beth and Monique ran.

Neither Jason nor Monique jumped but they both ran.

If Monique and Beth ran, then Jason jumped, but if Jason ran then either Monique or Beth jumped.

Either Jason jumped if he ran or he did not jump.

Beth ran and jumped but if Chris did not run he jumped.

It is not true that if Monique jumped, both Jason and Chris ran.

If Monique ran then if Jason ran, not both Chris and Beth jumped.

Chris ran only if he didn’t jump.

Unless Monique did not jump, Beth didn’t jump.

The only way Chris ran is if Beth jumped.

Monique ran if she jumped and jumped only if Chris did too.

Chris, Beth, Monique, and Jason were all running, but Monique jumped only if one of the others did too.

Beth jumped if and only if she was running.
F = Fredo works for the Don.
M = Michael works for the Don.
O = Sonny went to the mattresses.
R = Fredo went to the mattresses.
I = Michael went to the mattresses.
N = Sonny runs operations in Chicago.
L = Fredo runs operations in Chicago.
C = Michael runs operations in Chicago.

1. Sonny didn't go to the mattresses, unless he works for the Don.

2. Fredo and Michael work for the Don, but neither of them went to the mattresses.

3. If Michael works for the Don, then he or Fredo went to the mattresses.

4. If Sonny runs operations in Chicago, then he does not run operations in Chicago.

5. Both Sonny and Michael run operations in Chicago; both went to the mattresses; but neither work for the Don.

6. Although Fredo works for the Don, he neither runs operations in Chicago nor went to the mattresses.

7. Either Michael works for the Don or he runs operations in Chicago, but Sonny does neither.

8. Unless Fredo works for the Don, he does not run operations in Chicago.

9. Sonny and Michael work for the Don, and both had to go to the mattresses.

10. Fredo and Sonny both do not work for the Don; however, only one of them had to go to the mattresses.

11. Michael and Sonny both work for the Don—that is, unless neither of them run operations in Chicago.

12. Michael and Sonny do not both work for the Don, although (exactly) one of them runs operations in Chicago.

13. Although Michael avoided going to the mattresses, neither he nor Sonny could avoid working for the Don.

14. Now that Sonny and Fredo have gone to the mattresses, Michael is running operations in Chicago—unless, of course, he went to the mattresses, too.

15. Of Fredo and Michael, only one run operations in Chicago, unless neither of them works for the Don.