

Directions: Diagram the following conditionals, and their contrapositives. Connect any statements if possible (i.e. create a chain of conditionals).

If Sally goes to class, then John does as well.

$$S \rightarrow J$$

$$\sim J \rightarrow \sim S$$

If Sally does not go to class, Robyn does go to class.

$$\sim S \rightarrow R$$

$$\sim R \rightarrow S$$

If John goes to class, Lex does not.

$$J \rightarrow \sim L$$

$$L \rightarrow \sim J$$

Rewrite any conditional chains below.

$$\sim R \rightarrow S \rightarrow J \rightarrow \sim L$$

$$L \rightarrow \sim J \rightarrow \sim S \rightarrow R$$

Create the longest chain(s) you can from the following conditionals. [Hint: Write out the contrapositives to see more links.]

$$A \rightarrow T$$

$$(\sim T \rightarrow \sim A)$$

$$\sim A \rightarrow D$$

$$(\sim D \rightarrow A)$$

$$D \rightarrow E$$

$$(\sim E \rightarrow \sim D)$$

$$J \rightarrow W$$

$$(\sim W \rightarrow \sim J)$$

$$\sim W \rightarrow P$$

$$(\sim P \rightarrow W)$$

$$\sim J \rightarrow \sim T$$

$$(T \rightarrow J)$$

Answer:

$$\sim W \rightarrow \sim J \rightarrow \sim T \rightarrow \sim A \rightarrow D \rightarrow E$$

$$\sim E \rightarrow \sim D \rightarrow A \rightarrow T \rightarrow J \rightarrow W$$

[$\sim W \rightarrow P$ and its contrapositive do not fit into the chain]