Converse, Inverse, Contrapositive

Given an if-then statement "if p, then q ," we can create three related statements:
A conditional statement consists of two parts, a hypothesis in the “if” clause and a conclusion in the “then” clause. For instance, “If it rains, then they cancel school.”

"It rains" **is the hypothesis**.
"They cancel school" **is the conclusion.**

To form the **converse** of the conditional statement, interchange the hypothesis and the conclusion.

The converse of *"If it rains, then they cancel school"*

- **is *"If they cancel school, then it rains."***

To form the **inverse** of the conditional statement, take the negation of both the hypothesis and the conclusion.

The **inverse** of *“If it rains, then they cancel school”*

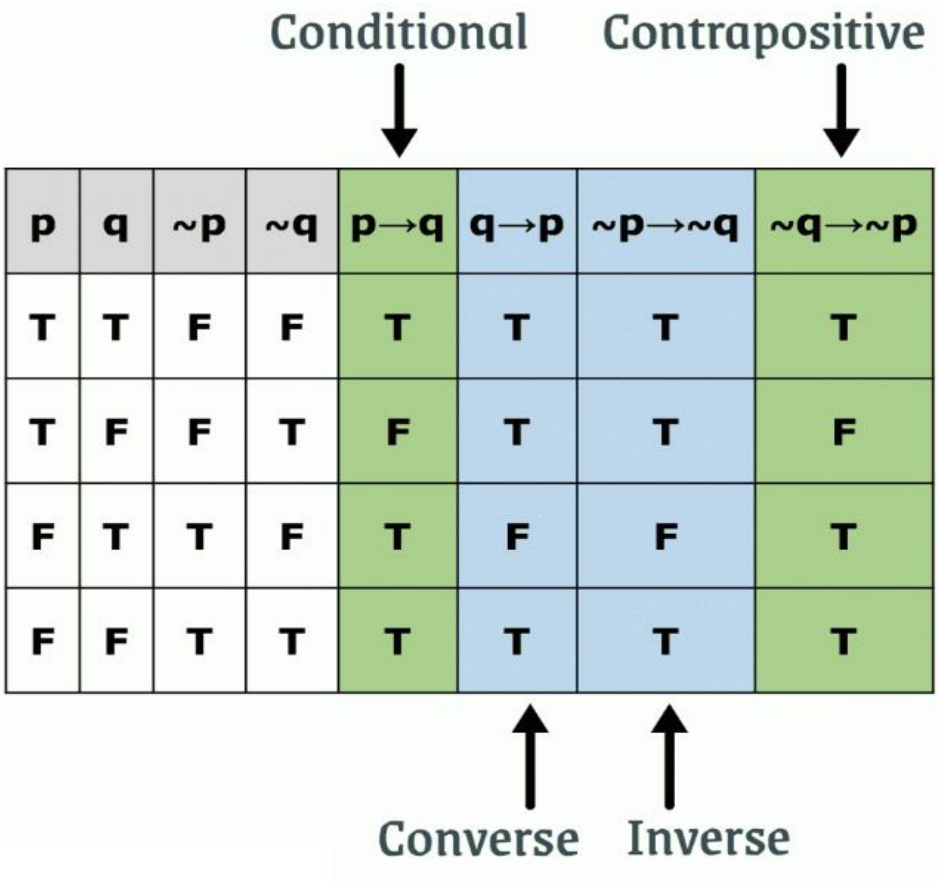
- **is *“If it does not rain, then they do not cancel school.”***

To form the **contrapositive** of the conditional statement, interchange the hypothesis and the conclusion of the inverse statement.

The **contrapositive** of *"If it rains, then they cancel school"*

- **is *"If they do not cancel school, then it does not rain."***

Statement	If p , then q .
Converse	If q , then p .
Inverse	If not p , then not q .
Contrapositive	If not q , then not p .


Conditional
Contrapositive
p
q
~p
~q
p→q
q→p
~p→~q
~q→~p
T T F F T T T T
T F F T F T T F
F T T F T F F T
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Converse
Inverse