The value of \((P \implies Q)\) is \(F\) iff \(P\) is \(T\) and \(Q\) is \(F\). So

\[ P \implies Q \text{ same as } \overline{P} \lor Q \]
A True Implication

(1=-1) IMPLIES (I am Pope)
We reasoned correctly to reach the false conclusion from the false hypothesis.
A True Implication

(1=-1) IMPLIES (I am Pope)
The whole implication is true, even though both conclusion & hypothesis are false.

False implies False?

Having P IMPLIES Q be T when P and Q are both F clashes with the idea that “implies” indicates that P somehow causes Q.

Causal Implication?

“If he had slept more, he would have gotten an A.”

Causal Implication?

“(slept more) IMPLIES A” You might claim this was false
Causal Implication?

“(slept more) IMPLIES A”
You might claim this was false because the sleepy student with the poor grade also had not studied...

Causal Implication?

“(slept more) IMPLIES A”
You might claim this was false because ...lack of sleep was not a cause of the poor grade.

IMPLIES is not causal

Causal/counter-factual assertions make some sense, although they raise philosophical problems. The propositional connective IMPLIES ignores causality.

IMPLIES is not causal

Causal/counter-factual assertions make some sense, although they raise philosophical problems. The propositional connective IMPLIES ignores causality. This makes it simple, but still useful.