

(*) Provable Equivalence:

↳ logical equivalence (or) biconditional implication, ^{which} refers to relationship b/w two statements (or) formulas in a logical system.

↳ Provable equivalence is denoted by the symbol " \equiv " or by " \leftrightarrow ".

↳ eg: given two statements P and q , the expression " $P \equiv q$ " or " $P \leftrightarrow q$ " indicates P & q are provably equivalent.

↳ Here are some examples of common provable equivalences in propositional logic:

i) Commutative Laws!

$$* P \wedge q \equiv q \wedge P \text{ (conjunction)}$$

$$* P \vee q \equiv q \vee P \text{ (disjunction)}$$