Logical equivalence means that two formulas always have the same truth value for all possible values of their variables. For example, "P implies Q" is logically equivalent to "not P or Q". This can be proven by comparing their truth tables and showing they are identical.

Conditional Statement:

a conditional statement *(also called an implication) is a logical statement of the form.It is written symbolically as: P→Q*

Truth Table:

P	*Q*	*P→Q*
T	*T*	*T*
T	*F*	*F*
F	*T*	*T*
F	*F*	*T*

Biconditional:

The biconditional (represented by ↔) is read as "P if and only if Q". It means that P implies Q and Q implies P, indicating that P and Q have the same truth value. "P if and only if Q" is true when both P and Q are true or both are false.

Truth Table :

P	*Q*	*P↔Q*
T	*T*	*T*
T	*F*	*F*
F	*T*	*F*
F	*F*	*T*