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Truth table of $\neg$:

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p	$\neg$ p
T	F
F	T

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Disjunction of p and q: $p \vee q$: p or q

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Disjunction of p and q: $p \lor q$: p or q

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Conditional Statements

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Definition (Conditional Statement)

Conditional Statement of p and q: $p \Rightarrow q$: If p then q

p: Student gets atleast 40/100 marks. q : Student will pass.
$p \Rightarrow q$: If a student gets atleast 40/100 marks then he/she will pass.
$p \Rightarrow q$: can be read as p implies q or q follows from p or a sufficient condition for q is p.
“If you get atleast 40/100 marks then you will pass.”
Equivalent to say to above proposition: “ To pass, atleast 40/100 marks are required.”
“If today is a Friday then it is a raining day.”
p : Today is a Friday; q : Friday is a raining day.
If $x = 2$ then x divides 10.

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Check: $p \Rightarrow q$ and $\neg q \Rightarrow \neg p$ are equivalent.

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Check: $p \Leftrightarrow q$ is equivalent to $p \Rightarrow q$ and $q \Rightarrow p$.

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