

## Logical operators full truth table

Input		Output				
		Conjunction $p \wedge q$	Exclusive or $p \oplus q$	Disjunction $p \vee q$	Conditional $p \rightarrow q$	Biconditional $p \leftrightarrow q$
$p$	$q$					
$T$	$T$	$T$	$F$	$T$	$T$	$T$
$T$	$F$	$F$	$T$	$T$	$F$	$F$
$F$	$T$	$F$	$T$	$T$	$T$	$F$
$F$	$F$	$F$	$F$	$F$	$T$	$T$

“p and q”    “p xor q”    “p or q”    “if p then q”    “p if and only if q”

## Logical operators truth tables

Truth tables: Input-output tables where we use  $T$  for 1 and  $F$  for 0.

Input		Output		
		Conjunction $p \wedge q$	Exclusive or $p \oplus q$	Disjunction $p \vee q$
$p$	$q$			
$T$	$T$	$T$	$F$	$T$
$T$	$F$	$F$	$T$	$T$
$F$	$T$	$F$	$T$	$T$
$F$	$F$	$F$	$F$	$F$

AND    XOR    OR

Input		Output
		Negation
$p$		$\neg p$
$T$		$F$
$F$		$T$

NOT