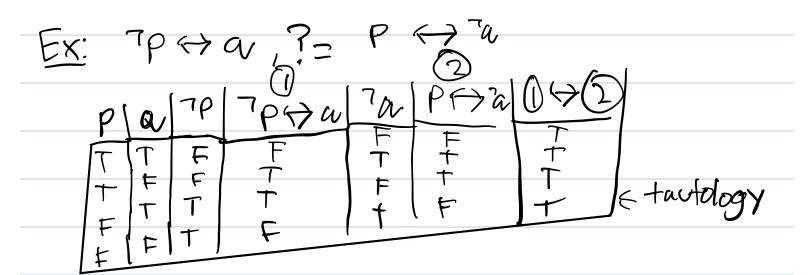
$$P \rightarrow QV \equiv TPVQV$$
 To ble 7  
 $T(P \rightarrow QV) \equiv (P \wedge TQV)$ 

## Example

Tautology is always folse: PN7P Contradiction is always folse: PN7P



Use table from Pg 29 to to scame

8.2

$$7p \leftrightarrow \alpha \equiv 7(7p) \leftrightarrow 7q \equiv p \leftrightarrow 7q$$
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 $7p \leftrightarrow \alpha \equiv 7(7p) \leftrightarrow 7q \equiv 1q \to 1q$ 
 $7p \leftrightarrow \alpha \equiv 1q \to 1q$ 
 $7p \to \to 1q$ 

## Predicates and Quantifiers

Statement front involves variables generally are not T/F

X=Y+7 < not proposition

X=Y+7 < not proposition

Proposition will have variable P(x,y): x=y+7

Acpending on value of x,y

Generally P. F have 2 parts, variables : predicate

Fx: 4 = 3

11 | css equal 31 | predicate

y is variable

P(Y): Y=3	niversal Quantifion of P(x) is the Statement
ρ(2):T	P(x)-for all values of $x$
P(-10) T P(0): F	Notation: $\bigvee \times P(x)$
C)	cistential Quantifion of P(x) is  There exist on Element x in the Johnson Sech than 1 P(x)  Action:   X P(x)
	**************************************
Fx: All stdent	s in CS 2210 did hal
YXP1X	P(X): X did how Oomain: Student
	correctly enrolled in
77. p(.).	
7x 1(x).	There is no student in 05240 (5220) Such that Statent did how
Order of Prosiden	ce: 4, 3, take priority over logical statements
= (x)9 xE) = 3x	$\forall x^{7}P(x)$
(	
	P(x): x did hwl
	Jan or Falst and Indooks Kings Mark