368 341 310	Mathematical lagic #2
And the second of the second o	a touthough, since - is only force when the last operand
is true	but the right operand is talge, since in x x both operands
	some, it can not accur that the left aparant be true and
	on he false
There fore	(x+x) -x = T -x Hower Tinx is only true when x
	(SO (X+X) -X = X Therefore: (M)
- x)))	$x: [x \leftarrow (x \leftarrow x) = x \leftarrow (x \leftarrow (x \leftarrow (x \leftarrow x) \rightarrow x) \rightarrow x]$
Which i	s neither a tautology or a contradiction
Day the b	couth table below showy, when A is take and b and c use true,
	sition is talge, otherwise its true. Therefore this
	n is neither a tautology or a contradiction
	$((AV_7B) \rightarrow (AV(BAC))) \rightarrow (C \rightarrow A)$
f F F	1 x - ) ( ( ( T ) ) ( - 2 ( ( ( ) ) ) ) )
FFT	T
₹ T F	T ((9,7(2,19)/x))
FT T	F R. (I. P.) AVI
TFF	T (18,717) \ (1,717)
TFT	Tall and deliver a
TTF	Janara, 11(4,/x)).
TTT	T. 31. n. 1. 114, 7. 1
a Simply as	atomic proposition. Its not a contradiction, even though
	that factually its incorrect.
	ther a tantology were nor a soft contradiction, since although
he know	that in the world we live in me need cloudy for there to be
	rding mathematical logice be can in thosy arriga a
teath valu	at to "Ity rainy" and a false value to "ity cloudy" that
giving our	proposition a value of false hand in that rage
@ This is a	offer a tantalogy non a contradiction. Let A be the atomic
propositio	a my pathe if Bon? The former proposition is equivalent
+ R → R	If B topker the value 'True' then TR take the value
Fulge, in	which case Rank = Tak = F proving that the proposition

in question is not a tenthopy. However, it is today the whole 'Folly's' them  R> - R = F>T, which evaluates to tend, so the Vispinitim is too and a  (soccalitation  () (A>B) (C>B) (> (A)C) +B  Proof: (A+B) (C+B)  = (-(AN-B)) (-(CN-B))  = (-(AN-B)) (-(CN-B))  = (-(AN-B)) (-(CN-B))  = (-(AN-C) VB  = -((AN-C) VB  = -((AN-C) VB  = -((AN-C) VB  = -((AN-C) VB  (-(AN-C) - B)  = -(AN-C) - B  (-(AN-C) - B)  = -(AN-C) - (AN-C)  = -(AN-C)			
R=R=F>T, think qualitating to true go the grophy it in is his not a controllition.  (sectrollition.  (sectrollition.  (not not not in the prophy it in is his not a controllition.  (not not not in the prophy it in is his not a controllition.  (not not not not in the prophy it in is his not not in the prophy it in is his not in the prophy it in is his not in the prophy it in it is his not in the prophy it in it is his not in the prophy it in it is his not in the prophy it is not	in question is not a tantology. However, it is	cates the value 'Fallie' t	hen
( ) ( A → B ) N ( C → B ) ←> (Aν C) → B  Proof: (A → B ) N (C → B )  = (¬(A ∩ ¬ B)) N (¬(C ∧ ¬ B))  = (¬(A ∩ ¬ B)) N (¬(C ∧ ¬ B))  = (¬(A ∨ ¬ C) ∨ B  = ¬(A ∨ C) ∨ B  ( A ∨ C) ∨ ¬ B  ( A ∨ C) ∨ ¬ B  ( A ∨ C) ∨ ¬ B  = ¬(A ∨ C) → B  ( A ∨ C) ∨ ¬ B  ( A ∨ C) ∨ ¬ B  ( A ∨ C) ∨ ¬ B  = ¬(A ∨ C) ∨ ¬ C  ¬(A ∨ C) ∨ ¬	RR=F-T, Which qualyotes to true so the	a proposition is also not a	
Proof: $(A + B) \wedge (c + B)$ = $(1(A \cap B)) \wedge (1(C \wedge B))$ = $(1A \vee B) \wedge (1(C \wedge B))$ = $(1A \vee B) \wedge (1(C \wedge B))$ = $(1A \vee B) \wedge (1(C \wedge B))$ = $(1A \vee C) \vee B$ = $1(A \vee C) \vee B$ = $1(A \vee C) \vee B$ = $1(A \vee C) \wedge B$ = $1(A \wedge C) \wedge B$	(ontradiction		
= (\(\langle \langle \cap \rangle \langle \langle \langle \langle \cap \rangle \langle	36 (A→B) N(C→B) ↔ (AVC)→B		
= (¬AV\$) N (¬CV\$)  = (¬AV=) V B  = ¬(AVC) V B  =¬ ((AVC) N B)  = (AVC) → B  D b Let x = "a is larger than b " β = "ci is larger (µoy, 0", Y " b is larger  = "b is equal to 0"	$P_{Coo}F: (A \rightarrow B) \wedge (c \rightarrow B)$	Carried Alley 110	
= \(\langle \text{A} \rangle \cdot \text{B}\) = \(\langle \text{A} \rangle \text{A} \rangle \rangle \text{A}			
= 7(AVC)VB = 7((AVC)N1B) = (AVC) > B  D Let x = "a is larger than b" B = "a is larger (han 0". Y "b is larger  \[ align="color: black between the bold between the betw	= (2AVB) N (2CVB)		
= (Aν2) γ β  (Aν2) γ β  (Aν2) γ β  (Aν2) γ β  (Aν3) γ β γ γ γ γ γ γ γ γ γ γ γ γ γ γ γ γ γ		1, ( 1) ( 21)	
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= (N) → B  D Let a = "a is larger than b = B = "a is larger (han 0", Y = b is larger than b = B = "a is larger (han 0", Y = b is larger than b = B = "a is larger than b = B = "a is larger (han 0", Y = b is larger (han 0"	=7 ((AVC) 17B)		
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$ \begin{array}{c} ( \times \wedge ( Y \vee \delta ) ) \rightarrow \beta \iff ( \times \wedge \wedge \gamma \delta ) \rightarrow ( \wedge Y \wedge \gamma \delta ) \\ ( \times \wedge ( Y \vee \delta ) ) \rightarrow \beta \\ = \gamma ( \times \wedge ( Y \vee \delta ) \wedge \gamma \delta ) \\ = \gamma \times \vee \gamma ( Y \vee \delta ) \vee \beta \\ = \gamma \times \vee \gamma ( Y \vee \delta ) \vee \beta \\ = \gamma \times \vee \gamma ( Y \wedge \gamma \delta ) \\ = \gamma \times \vee \gamma ( Y \wedge \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) \\ = \gamma \times ( \times \wedge \gamma \delta ) \wedge \gamma ( \gamma \delta ) $			
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= ¬ (« Λ (γ ν δ) λ ¬ β)  = ¬ « ν ¬ (γ ν δ) ν β  = ¬ « ν ¬ (γ ν δ) ν η  = ¬ (α Λ ¬ β) ν (¬ γ Λ ¬ δ)  = ¬ ((α Λ ¬ β) Λ ¬ (¬ γ Λ ¬ δ))  = (α Λ ¬ β) → (¬ γ Λ ¬ δ)  = (α Λ ¬ β) → (¬ γ Λ ¬ δ)  = χ ν (γ Λ ¬ γ)  = χ ν (γ Λ ¬ γ)  = χ ν (γ Λ γ γ γ γ γ γ γ γ γ γ γ γ γ γ γ γ γ		7 7 7	
$= \frac{1}{1} \times \sqrt{1} \times $		7 7 7	
$= \frac{1}{1} \times \sqrt{\beta} \vee (\frac{1}{1} + \frac{1}{1} + \frac{1}{1})$ $= \frac{1}{1} \times (\frac{1}{1} + \frac{1}{1} + \frac{1}{1} + \frac{1}{1})$ $= \frac{1}{1} \times (\frac{1}{1} + \frac{1}{1} + \frac{1}{1$		9 7 9	14 9 9 4 14 14 14 14 14 14 14 14 14 14 14 14 1
$ = \frac{1}{2} ((\alpha \Lambda_1 \beta) \vee ((\alpha \Lambda_1 \beta) \wedge ((\alpha \Lambda_1 \lambda) \wedge ((\alpha \Lambda$			
$ \begin{array}{c} \overset{\circ}{} - 1 & \left( (\times \Lambda_{1} \beta) \Lambda_{1} ({1} \gamma \Lambda_{1} \Gamma) \right) \\ & = \left( (\times \Lambda_{1} \beta) \rightarrow \left( ({1} \gamma \Lambda_{1} \Gamma) \right) \\ & = \left( (\times \Lambda_{1} \beta) \rightarrow \left( ({1} \gamma \Lambda_{1} \Gamma) \right) \\ & = (\times \Lambda_{1} \beta) \rightarrow \left( (\times \Lambda_{1} \gamma) \right) \\ & = (\times \Lambda_{1} \gamma) \wedge \left( (\times \Lambda_{1} \gamma) \wedge (\times \Lambda_{1} \gamma) \right) \\ & = (\times \Lambda_{1} \gamma) \wedge \left( (\times \Lambda_{1} \gamma) \wedge (\times \Lambda_{1} \gamma) \wedge (\times \Lambda_{1} \gamma) \right) \\ & = (\times \Lambda_{1} \gamma) \wedge \left( (\times \Lambda_{1} \gamma) \wedge (\times \Lambda_{1} \gamma) \wedge (\times \Lambda_{1} \gamma) \wedge (\times \Lambda_{1} \gamma) \right) \\ & = (\times \Lambda_{1} \gamma) \wedge \left( (\times \Lambda_{1} \gamma) \wedge (\times \Lambda_{1} \gamma) \wedge (\times \Lambda_{1} \gamma) \wedge (\times \Lambda_{1} \gamma) \wedge (\times \Lambda_{1} \gamma) \right) \\ & = (\times \Lambda_{1} \gamma) \wedge \left( (\times \Lambda_{1} \gamma) \wedge (\times \Lambda_{1} \gamma$		7 4 7	
$= (\times \Lambda_{1}\beta) \rightarrow (1 \uparrow \Lambda_{1}\beta)$ $= (\times \Lambda_{1}\beta) \rightarrow (1 \uparrow \Lambda_{1}\beta)$ $= (\times \Lambda_{1}\beta) \rightarrow (\times \Lambda_{1}\beta$	# 공항계약에 <b>되었</b> 는데 이 이 집은 경기에 가는 그는 것이 되는 것이 없었다. 그는 것이 되는 것이 되었는데 보다 되었다. 그는 데 그는 것이었는데 함께 되는 것이다.	777	
	= (~ (~ ) ) - (~ 7 (~ 6)	1-11	
$= \times \vee (Y \wedge_{1}Y)$ $= \times \vee E$ $= \times \wedge (Y \wedge_{2}Y) \vee (X \wedge_{1}Y \wedge_{2}Y) \vee (Y \wedge_{2}Y)$ $= \times \wedge ((Y \wedge_{2}Y) \vee (Y \wedge_{2}Y) \vee (Y \wedge_{2}Y)$ $= \times \wedge ((Y \wedge_{1}Y) \vee_{1}Y)$		,	
$= x\sqrt{E}$ $= X$ $(x \wedge y \wedge z) \vee (x \wedge y \wedge z) \vee (y \wedge z)$ $= x \wedge ((y \wedge z) \vee (y \wedge z) \vee y)$ $= x \wedge ((y \wedge (z \vee z)) \vee y)$ $= x \wedge ((y \wedge z) \vee y)$ $= x \wedge (y \vee y)$ $= x \wedge z$ $= x$		1,111 101111111111111111111111111111111	
$= \chi \Lambda((Y \Lambda Z) \vee (Y \Lambda Z) \vee Y)$ $= \chi \Lambda((Y \Lambda (Z \vee Y)) \vee Y)$ $= \chi \Lambda((Y \Lambda Y) \vee Y)$ $= \chi \Lambda (Y \vee Y)$ $= \chi \Lambda (Y \vee Y)$ $= \chi \Lambda (Y \vee Y)$			
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$= \chi \Lambda ((Y \Lambda (2V_1 Z)) V_1 Y)$ $= \chi \Lambda ((Y \Lambda Y) V_1 Y)$ $= \chi \Lambda (Y V_1 Y)$ $= \chi \Lambda T$ $= \chi$			
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Det P be tolde, and R and S be true, PVR is true because B is true P = 5 is true because P is Falge. R > 5 is true because both R and S one true. This is an example while all 3 given propagition had, yet P is false. Therefore the siven implication don't had.

Det R be False, and P and S be true. PVB is true because P is true.

R > 15 true because R is false. P > 5 is true because both P and S are true. This is an example where all 3 given propositions hald,

yet RV > 5 is false. Therefore the given implications do not hald.