

PART 1:

A	B			$\sim$	A	$\vee$	B	
T	T			F	T	T	T	
T	F			F	T	F	F	
F	T			T	F	T	T	
F	F			T	F	T	F	

PART 2:

B	X			$\sim$	B	$\vee$	X	
T	T			F	T	T	T	
T	F			F	T	F	F	
F	T			T	F	T	T	
F	F			T	F	T	F	

PART 3:

B	C			$\sim$	B	$\vee$	C	
T	T			F	T	T	T	
T	F			F	T	F	F	
F	T			T	F	T	T	
F	F			T	F	T	F	

PART 4:

X	Z			$\sim$	Z	$\vee$	X	
T	T			F	T	T	T	
T	F			T	F	T	T	
F	T			F	T	F	F	
F	F			T	F	T	F	

PART 5:

A	B	X	Y			(	A	$\wedge$	X	)	$\vee$	(	B	$\wedge$	Y	)	
T	T	T	T				T	T	T		T		T	T	T		
T	T	T	F				T	T	T		T		T	F	F		
T	T	F	T				T	F	F		T		T	T	T		

T	T	F	F				T	F	F		F		T	F	F		
T	F	T	T				T	T	T		T		F	F	T		
T	F	T	F				T	T	T		T		F	F	F		
T	F	F	T				T	F	F		F		F	F	T		
T	F	F	F				T	F	F		F		F	F	F		
F	T	T	T				F	F	T		T		T	T	T		
F	T	T	F				F	F	T		F		T	F	F		
F	T	F	T				F	F	F		T		T	T	T		
F	T	F	F				F	F	F		F		T	F	F		
F	F	T	T				F	F	T		F		F	F	T		
F	F	T	F				F	F	T		F		F	F	F		
F	F	F	T				F	F	F		F		F	F	T		
F	F	F	F				F	F	F		F		F	F	F		

PART 6:

B	C	Y	Z				(	B	^	C	)	v	(	Y	^	Z	)
T	T	T	T				T	T	T		T		T	T	T		
T	T	T	F				T	T	T		T		T	F	F		
T	T	F	T				T	T	T		T		F	F	T		
T	T	F	F				T	T	T		T		F	F	F		
T	F	T	T				T	F	F		T		T	T	T		
T	F	T	F				T	F	F		F		T	F	F		
T	F	F	T				T	F	F		F		F	F	T		
T	F	F	F				T	F	F		F		F	F	F		
F	T	T	T				F	F	T		T		T	T	T		
F	T	T	F				F	F	T		F		T	F	F		
F	T	F	T				F	F	T		F		F	F	T		
F	T	F	F				F	F	T		F		F	F	F		
F	F	T	T				F	F	F		T		T	T	T		
F	F	T	F				F	F	F		F		T	F	F		
F	F	F	T				F	F	F		F		F	F	T		
F	F	F	F				F	F	F		F		F	F	F		

PART 7:

A	C	Y	Z				~	(	C	^	Y	)	v	(	A	^	Z	)
T	T	T	T				F		T	T	T		T		T	T	T	
T	T	T	F				F		T	T	T		F		T	F	F	
T	T	F	T				T		T	F	F		T		T	T	T	
T	T	F	F				T		T	F	F		T		T	F	F	
T	F	T	T				T		F	F	T		T		T	T	T	
T	F	T	F				T		F	F	T		T		T	F	F	

T	F	F	T			T		F	F	F		T		T	T	T		
T	F	F	F			T		F	F	F		T		T	F	F		
F	T	T	T			F		T	T	T		F		F	F	T		
F	T	T	F			F		T	T	T		F		F	F	F		
F	T	F	T			T		T	F	F		T		F	F	T		
F	T	F	F			T		T	F	F		T		F	F	F		
F	F	T	T			T		F	F	T		T		F	F	T		
F	F	T	F			T		F	F	T		T		F	F	F		
F	F	F	T			T		F	F	F		T		F	F	T		
F	F	F	F			T		F	F	F		T		F	F	F		

PART 8:

A	B	X	Y					~	(	A	^	B	)	v	(	X	^	Y	)				
T	T	T	T					F		T	T	T		T		T	T	T					
T	T	T	F					F		T	T	T		F		T	F	F					
T	T	F	T					F		T	T	T		F		F	F	T					
T	T	F	F					F		T	T	T		F		F	F	F					
T	F	T	T					T		T	F	F		T		T	T	T					
T	F	T	F					T		T	F	F		T		T	F	F					
T	F	F	T					T		T	F	F		T		F	F	T					
T	F	F	F					T		T	F	F		T		F	F	F					
F	T	T	T					T		F	F	T		T		T	T	T					
F	T	T	F					T		F	F	T		T		T	F	F					
F	T	F	T					T		F	F	T		T		F	F	T					
F	T	F	F					T		F	F	T		T		F	F	F					
F	F	T	T					T		F	F	F		T		T	T	T					
F	F	T	F					T		F	F	F		T		T	F	F					
F	F	F	T					T		F	F	F		T		F	F	T					
F	F	F	F					T		F	F	F		T		F	F	F					

PART 9:

B	C	X	Z			~	(	X	^	Z	)	v	(	B	^	C	)
T	T	T	T			F		T	T	T		T		T	T	T	
T	T	T	F			T		T	F	F		T		T	T	T	
T	T	F	T			T		F	F	T		T		T	T	T	
T	T	F	F			T		F	F	F		T		T	T	T	
T	F	T	T			F		T	T	T		F		T	F	F	
T	F	T	F			T		T	F	F		T		T	F	F	
T	F	F	T			T		F	F	T		T		T	F	F	

T	F	F	F			T		F	F	F		T		T	F	F		
F	T	T	T			F		T	T	T		F		F	F	T		
F	T	T	F			T		T	F	F		T		F	F	T		
F	T	F	T			T		F	F	T		T		F	F	T		
F	T	F	F			T		F	F	F		T		F	F	T		
F	F	T	T			F		T	T	T		F		F	F	F		
F	F	T	F			T		T	F	F		T		F	F	F		
F	F	F	T			T		F	F	T		T		F	F	F		
F	F	F	F			T		F	F	F		T		F	F	F		

PART 10:

B	C	X	Y					$\sim (X \wedge \sim Y)$		$\vee (B \wedge \sim C)$								
T	T	T	T					T		T		T	F	F	T			
T	T	T	F					F		T		T	F	F	T			
T	T	F	T					T		F		T	F	F	T			
T	T	F	F					T		F		T	F	F	T			
T	F	T	T					T		T		T	T	T	F			
T	F	T	F					F		T		T	T	T	F			
T	F	F	T					T		F		T	T	T	F			
T	F	F	F					T		F		T	T	T	F			
F	T	T	T					T		T		F	F	F	T			
F	T	T	F					F		T		F	F	F	T			
F	T	F	T					T		F		F	F	F	T			
F	T	F	F					T		F		F	F	F	T			
F	F	T	T					T		T		F	F	T	F			
F	F	T	F					F		T		T	T	T	F			
F	F	F	T					T		F		F	F	T	F			
F	F	F	F					T		F		F	F	T	F			

PART 11:

A	B	X	Y					$(A \vee X) \wedge (Y \vee B)$										
T	T	T	T					T		T		T	T	T				
T	T	T	F					T		T		F	T	T				
T	T	F	T					T		T		T	T	T				
T	T	F	F					T		T		F	T	T				
T	F	T	T					T		T		T	T	F				
T	F	T	F					T		T		F	F	F				
T	F	F	T					T		T		T	T	F				
T	F	F	F					T		T		F	F	F				
F	T	T	T					F		T		T	T	T				
F	T	T	F					F		T		F	T	T				

<i>F</i>	T	F	T					F	F	F		<i>F</i>		T	T	T		
<i>F</i>	T	F	F					F	F	F		<i>F</i>		F	T	T		
<i>F</i>	F	T	T					F	T	T		<i>T</i>		T	T	F		
<i>F</i>	F	T	F					F	T	T		<i>F</i>		F	F	F		
<i>F</i>	F	F	T					F	F	F		<i>F</i>		T	T	F		
<i>F</i>	F	F	F					F	F	F		<i>F</i>		F	F	F		

PART 12:

<i>B</i>	<i>C</i>	<i>Y</i>	<i>Z</i>					(	<i>B</i>	<i>v</i>	<i>C</i>	)	$\wedge$	(	<i>Y</i>	<i>v</i>	<i>Z</i>	)		
<i>T</i>	T	T	T						T	T	T		<i>T</i>		T	T	T			
<i>T</i>	T	T	F						T	T	T		<i>T</i>		T	T	F			
<i>T</i>	T	F	T						T	T	T		<i>T</i>		F	T	T			
<i>T</i>	T	F	F						T	T	T		<i>F</i>		F	F	F			
<i>T</i>	F	T	T						T	T	F		<i>T</i>		T	T	T			
<i>T</i>	F	T	F						T	T	F		<i>T</i>		T	T	F			
<i>T</i>	F	F	T						T	T	F		<i>T</i>		F	T	T			
<i>T</i>	F	F	F						T	T	F		<i>F</i>		F	F	F			
<i>F</i>	T	T	T						F	T	T		<i>T</i>		T	T	T			
<i>F</i>	T	T	F						F	T	T		<i>T</i>		T	T	F			
<i>F</i>	T	F	T						F	T	T		<i>T</i>		F	T	T			
<i>F</i>	T	F	F						F	T	T		<i>F</i>		F	F	F			
<i>F</i>	F	T	T						F	F	F		<i>F</i>		T	T	T			
<i>F</i>	F	T	F						F	F	F		<i>F</i>		T	T	F			
<i>F</i>	F	F	T						F	F	F		<i>F</i>		F	T	T			

PART 13:

<i>X</i>	<i>Y</i>	<i>Z</i>					(	<i>X</i>	<i>v</i>	<i>Y</i>	)	$\wedge$	(	<i>X</i>	<i>v</i>	<i>Z</i>	)		
<i>T</i>	T	T						T	T	T		<i>T</i>		T	T	T			
<i>T</i>	T	F						T	T	T		<i>T</i>		T	T	F			
<i>T</i>	F	T						T	T	F		<i>T</i>		T	T	T			
<i>T</i>	F	F						T	T	F		<i>T</i>		T	T	F			
<i>F</i>	T	T						F	T	T		<i>T</i>		F	T	T			
<i>F</i>	T	F						F	T	T		<i>F</i>		F	F	F			
<i>F</i>	F	T						F	F	F		<i>F</i>		F	T	T			
<i>F</i>	F	F						F	F	F		<i>F</i>		F	F	F			

PART 14:

A	B	X	Y					~	(	A	v	Y	)	^	(	B	v	X	)				
T	T	T	T				F		T	T	T		F		T	T	T						
T	T	T	F				F		T	T	F		F		T	T	T						
T	T	F	T				F		T	T	T		F		T	T	F						
T	T	F	F				F		T	T	F		F		T	T	F						
T	F	T	T				F		T	T	T		F		F	T	T						
T	F	T	F				F		T	T	F		F		F	T	T						
T	F	F	T				F		T	T	T		F		F	F	F						
T	F	F	F				F		T	T	F		F		F	F	F						
F	T	T	T				F		F	T	T		F		T	T	T						
F	T	T	F				T		F	F	F		T		T	T	T						
F	T	F	T				F		F	T	T		F		T	T	F						
F	T	F	F				T		F	F	F		T		T	T	F						
F	F	T	T				F		F	T	T		F		F	T	T						
F	F	T	F				T		F	F	F		T		F	T	T						
F	F	F	T				F		F	T	T		F		F	F	F						
F	F	F	F				T		F	F	F		F		F	F	F						

PART 15:

X	Z			$\sim$	$($	X	$\vee$	Z	$)$	$\wedge$	$($	$\sim$	X	$\vee$	Z	$)$		
T	T			F		T	T	T		F		F	T	T	T			
T	F			F		T	T	F		F		F	T	F	F			
F	T			F		F	T	T		F		T	F	T	T			
F	F			T		F	F	F		T		T	F	T	F			

PART 16:

A	C	X	Y			~ (	A	v	C)	v	~ (	X	^	~	Y)		
T	T	T	T			F	T	T	T	T	T	T	F	F	T		
T	T	T	F			F	T	T	T	F	F	T	T	T	F		
T	T	F	T			F	T	T	T	T	T	F	F	F	T		
T	T	F	F			F	T	T	T	T	T	F	F	T	F		
T	F	T	T			F	T	T	F	T	T	T	F	F	T		
T	F	T	F			F	T	T	F	F	F	T	T	T	F		
T	F	F	T			F	T	T	F	T	T	F	F	F	T		
T	F	F	F			F	T	T	F	T	T	F	F	T	F		
F	T	T	T			F	F	T	T	T	T	T	F	F	T		
F	T	T	F			F	F	T	T	F	F	T	T	T	F		
F	T	F	T			F	F	T	T	T	T	F	F	F	T		
F	T	F	F			F	F	T	T	T	T	F	F	T	F		

F	F	T	T			T		F	F	F		T	T		T	F	F	T		
F	F	T	F			T		F	F	F		T	F		T	T	T	F		
F	F	F	T			T		F	F	F		T	T		F	F	F	T		
F	F	F	F			T		F	F	F		T	T		F	F	T	F		

PART 17:

B	X	Y	Z			$\sim$	(	B	$\vee$	Z	)	$\wedge$	$\sim$	(	X	$\vee$	$\sim$	Y	)		
<i>T</i>	T	T	T			F		T	T	T		F	F		T	T	F	T			
<i>T</i>	T	T	F			F		T	T	F		F	F		T	T	F	T			
<i>T</i>	T	F	T			F		T	T	T		F	F		T	T	T	F			
<i>T</i>	T	F	F			F		T	T	F		F	F		T	T	T	F			
<i>T</i>	F	T	T			F		T	T	T		F	T		F	F	F	T			
<i>T</i>	F	T	F			F		T	T	F		F	T		F	F	F	T			
<i>T</i>	F	F	T			F		T	T	T		F	F		F	T	T	F			
<i>T</i>	F	F	F			F		T	T	F		F	F		F	T	T	F			
<i>F</i>	T	T	T			F		F	T	T		F	F		T	T	F	T			
<i>F</i>	T	T	F			T		F	F	F		F	F		T	T	F	T			
<i>F</i>	T	F	T			F		F	T	T		F	F		T	T	T	F			
<i>F</i>	T	F	F			T		F	F	F		F	F		T	T	T	F			
<i>F</i>	F	T	T			F		F	T	T		F	T		F	F	F	T			
<i>F</i>	F	T	F			T		F	F	F		T	T		F	F	F	T			
<i>F</i>	F	F	T			F		F	T	T		F	F		F	T	T	F			
<i>F</i>	F	F	F			T		F	F	F		F	F		F	T	T	F			

PART 18:

A	C			$\sim$	(	A	$\vee$	$\sim$	C	)	$\vee$	(	C	$\vee$	$\sim$	A	)		
T	T			F		T	T	F	T		T		T	T	F	T			
T	F			F		T	T	T	F		F		F	F	F	T			
F	T			T		F	F	F	T		T		T	T	T	F			
F	F			F		F	T	T	F		T		F	T	T	F			

PART 19:

B	C			$\sim$	(	B	$\wedge$	C	)	$\wedge$	$\sim$	(	C	$\wedge$	B	)		
T	T			F		T	T	T		F	F		T	T	T			
T	F			T		T	F	F		T	T		F	F	T			
F	T			T		F	F	T		T	T		T	F	F			
F	F			T		F	F	F		T	T		F	F	F			

PART 20:

A	B			$\sim$	(	A	$\wedge$	B	)	$\vee$	$\sim$	(	B	$\wedge$	A	)
T	T			F		T	T	T		F	F		T	T	T	
T	F			T		T	F	F		T	T		F	F	T	
F	T			T		F	F	T		T	T		T	F	F	
F	F			T		F	F	F		T	T		F	F	F	

PART 21:

A	B	C				(	A	$\vee$	(	B	$\vee$	C	)	)	$\wedge$	$\neg$	(	(	A	$\vee$	B	)	$\vee$	C	)
T		T	T				T	T		T	T	T			F	F			T	T	T		T	T	
T		T	F				T	T		T	T	F			F	F			T	T	T		T	F	
T		F	T				T	T		F	T	T			F	F			T	T	F		T	T	
T		F	F				T	T		F	F	F			F	F			T	T	F		T	F	
F		T	T				F	T		T	T	T			F	F			F	T	T		T	T	
F		T	F				F	T		T	T	F			F	F			F	T	T		T	F	
F		F	T				F	T		F	T	T			F	F			F	F	F		T	T	
F		F	F				F	F		F	F	F			F	T			F	F	F		F	F	

PART 30:

A	B	z				(	A	$\rightarrow$	B	)	$\rightarrow$	z
T	T	T					T	T	T		T	T
T	T	F					T	T	T		F	F
T	F	T					T	F	F		T	T
T	F	F					T	F	F		T	F
F	T	T					F	T	T		T	T
F	T	F					F	T	T		F	F
F	F	T					F	T	F		T	T
F	F	F					F	T	F		F	F

PART 31:

X	Y	Z				(	X	$\rightarrow$	Y	)	$\rightarrow$	Z
T	T	T					T	T	T		T	T
T	T	F					T	T	T		F	F
T	F	T					T	F	F		T	T
T	F	F					T	F	F		T	F
F	T	T					F	T	T		T	T

F	T	F				F	T		T		F	F	
F	F	T				F	T		F		T	T	
F	F	F				F	T		F		F	F	

PART 32:

A	B	C				(	A	→	B	)	→	C	
T	T	T				T	T	T		T	T		
T	T	F				T	T	T		F	F		
T	F	T				T	F	F		T	T		
T	F	F				T	F	F		T	F		
F	T	T				F	T	T		T	T		
F	T	F				F	T	T		F	F		
F	F	T				F	T	F		T	T		
F	F	F				F	T	F		F	F		

PART 33:

C	X	Y				(	X	→	Y	)	→	C	
T	T	T				T	T	T		T	T		
T	T	F				T	F	F		T	T		
T	F	T				F	T	T		T	T		
T	F	F				F	T	F		T	T		
F	T	T				T	T	T		F	F		
F	T	F				T	F	F		T	F		
F	F	T				F	T	T		F	F		
F	F	F				F	T	F		F	F		

PART 34:

A	B	Z				A	→	(	B	→	Z	)	
T	T	T				T	T		T	T	T		
T	T	F				T	F		T	F	F		
T	F	T				T	T		F	T	T		
T	F	F				T	F		F	T	F		
F	T	T				F	T		T	T	T		
F	T	F				F	F		T	F	F		
F	F	T				F	T		F	T	T		

F	F	F				F	T		F	T	F		
---	---	---	--	--	--	---	---	--	---	---	---	--	--

PART 35:

X	Y	Z			X	→	(	Y	→	Z	)		
T	T	T			T	T		T	T	T			
T	T	F			T	F		T	F	F			
T	F	T			T	T		F	T	T			
T	F	F			T	F		F	T	F			
F	T	T			F	T		T	T	T			
F	T	F			F	F		T	F	F			
F	F	T			F	T		F	T	T			
F	F	F			F	F		F	T	F			

PART 36:

A	B	C	Z				(	A	→	(	B	→	C	)	)	→	Z
T	T	T	T				T	T		T	T	T				T	T
T	T	T	F				T	T		T	T	T				F	F
T	T	F	T				T	F		T	F	F				T	T
T	T	F	F				T	F		T	F	F				T	F
T	F	T	T				T	T		F	T	T				T	T
T	F	T	F				T	T		F	T	T				F	F
T	F	F	T				T	T		F	T	F				T	T
T	F	F	F				T	T		F	T	F				F	F
F	T	T	T				F	T		T	T	T				T	T
F	T	T	F				F	T		T	T	T				F	F
F	T	F	T				F	T		T	F	F				T	T
F	T	F	F				F	T		T	F	F				F	F
F	F	T	T				F	T		F	T	T				T	T
F	F	T	F				F	T		F	T	T				F	F
F	F	F	T				F	T		F	T	F				T	T
F	F	F	F				F	T		F	T	F				F	F

PART 37:

A	X	Y	Z				(	A	→	(	X	→	Y	)	)	→	Z
---	---	---	---	--	--	--	---	---	---	---	---	---	---	---	---	---	---

T	T	T	T				T	T		T	T	T			T	T
T	T	T	F				T	T		T	T	T			F	F
T	T	F	T				T	F		T	F	F			T	T
T	T	F	F				T	F		T	F	F			T	F
T	F	T	T				T	T		F	T	T			T	T
T	F	T	F				T	T		F	T	T			F	F
T	F	F	T				T	T		F	T	F			T	T
T	F	F	F				T	T		F	T	F			F	F
F	T	T	T				F	T		T	T	T			T	T
F	T	T	F				F	T		T	T	T			F	F
F	T	F	T				F	T		T	F	F			T	T
F	T	F	F				F	T		T	F	F			F	F
F	F	T	T				F	T		F	T	T			T	T
F	F	T	F				F	T		F	T	T			F	F
F	F	F	T				F	T		F	T	F			T	T
F	F	F	F				F	T		F	T	F			F	F

PART 38:

A	C	X	Y	(A → (X → Y)) → C												
T	T	T	T				T	T		T	T	T			T	T
T	T	T	F				T	F		T	F	F			T	T
T	T	F	T				T	T		F	T	T			T	T
T	T	F	F				T	T		F	T	F			T	T
T	F	T	T				T	T		T	T	T			F	F
T	F	T	F				T	F		T	F	F			T	F
T	F	F	T				T	T		F	T	T			F	F
T	F	F	F				T	T		F	T	F			F	F
F	T	T	T				F	T		T	T	T			T	T
F	T	T	F				F	T		T	F	F			T	T
F	T	F	T				F	T		F	T	T			T	T
F	T	F	F				F	T		F	T	F			T	T
F	F	T	T				F	T		T	T	T			F	F
F	F	T	F				F	T		T	F	F			F	F
F	F	F	T				F	T		F	T	T			F	F
F	F	F	F				F	T		F	T	F			F	F

PART 39:

A	B	X	Y					(	A	→	(	B	→	Y	)	)	→	X
T	T	T	T					T	T		T	T	T				T	T
T	T	T	F					T	F		T	F	F				T	T

T	T	F	T					T	T		T	T	T			F	F
T	T	F	F					T	F		T	F	F			T	F
T	F	T	T					T	T		F	T	T			T	T
T	F	T	F					T	T		F	T	F			T	T
T	F	F	T					T	T		F	T	T			F	F
T	F	F	F					T	T		F	T	F			F	F
F	T	T	T					F	T		T	T	T			T	T
F	T	T	F					F	T		T	F	F			T	T
F	T	F	T					F	T		T	T	T			F	F
F	T	F	F					F	T		T	F	F			F	F
F	F	T	T					F	T		F	T	T			T	T
F	F	T	F					F	T		F	T	F			T	T
F	F	F	T					F	T		F	T	T			F	F
F	F	F	F					F	T		F	T	F			F	F

PART 40:

C	X	Y	Z					(	(	X	→	Z	)	→	Y	)	→	C
T	T	T	T					T	T	T		T	T		T	T	T	T
T	T	T	F					T	F	F		T	T		T	T	T	T
T	T	F	T					T	T	T		F	F		T	T	T	T
T	T	F	F					T	F	F		T	F		T	F	T	T
T	F	T	T					F	T	T		T	T		T	T	T	T
T	F	T	F					F	T	F		T	T		T	T	T	T
T	F	F	T					F	T	T		F	F		T	F	T	T
T	F	F	F					F	T	F		F	F		T	F	T	T
F	T	T	T					T	T	T		T	T		F	F	F	F
F	T	T	F					T	F	F		T	T		F	F	F	F
F	T	F	T					T	T	T		F	F		T	F	T	F
F	T	F	F					T	F	F		T	F		T	F	T	F
F	F	T	T					F	T	T		T	T		F	F	T	F
F	F	T	F					F	T	F		T	T		F	F	T	F
F	F	F	T					F	T	T		F	F		T	F	T	F
F	F	F	F					F	T	F		F	F		T	F	T	F

PART 41:

B	Y						(	(	Y	→	B	)	→	Y	)	→	Y
T	T						T	T	T		T	T		T	T	T	T
T	F						F	T	T		F	F		T	F	T	F
F	T						T	F	F		T	T		T	T	T	T
F	F						F	T	F		F	F		T	F	T	F

PART 42:

A	B	Y	Z						(	(	A	→	Y	)	→	B	)	→	Z
T	T	T	T								T		T		T	T		T	
T	T	T	F								T		T		T	T		F	F
T	T	F	T								T		F	F		T	T		T
T	T	F	F								T		F	F		T	T		F
T	F	T	T								T		T		F	F		T	T
T	F	T	F								T		T		F	F		T	F
T	F	F	T								T		F	F		T	F		T
T	F	F	F								T		F	F		T	F		F
F	T	T	T								F		T	T		T	T		T
F	T	T	F								F		T	T		T	T		F
F	T	F	T								F		T	F		T	T		T
F	T	F	F								F		T	F		T	T		F
F	F	T	T								F		T	T		F	F		T
F	F	T	F								F		T	T		F	F		F
F	F	F	T								F		T	F		F	F		T
F	F	F	F								F		T	F		F	F		F

PART 43:

A	C	X							(	(	A	∧	X	)	→	C	)	→	(	(	X	→	C	)	→	X	)
T		T	T								T		T		T	T		T			T	T	T		T	T	
T		T	F								T		F		T	T		F			F	T	T		F	F	
T		F	T								T		T		F	F		T			T	F	F		T	T	
T		F	F								T		F		T	F		F			F	T	F		F	F	
F		T	T								F		F		T	T		T			T	T	T		T	T	
F		T	F								F		F		T	T		F			F	T	T		F	F	
F		F	T								F		F		T	F		T			T	F	F		T	T	
F		F	F								F		F		T	F		F			F	T	F		F	F	

PART 44:

A	C	X							(	(	A	∧	X	)	→	C	)	→	(	(	A	→	X	)	→	C	)
T	T	T									T		T		T	T		T			T	T	T		T	T	
T	T	F									T		F		T	T		T			T	F	F		T	T	
T	F	T									T		T		F	F		T			T	T	T		F	F	
T	F	F									T		F		T	F		T			T	F	F		T	F	
F	T	T									F		F		T	T		T			F	T	T		T	T	
F	T	F									F		F		T	T		T			F	T	F		T	T	
F	F	T									F		F		T	F		F			F	T	T		F	F	
F	F	F									F		F		T	F		F			F	T	F		F	F	

PART 45:

[illegible]

PART 46:

A X		((A ∧ X) ∨ (~ A ∧ ~ X)) → ((A → X) ∧ (X → A))																														
T	T					T	T	T		T		F	T	F	F	T			T		T	T	T		T		T	T	T			
T	F					T	F	F		F		F	T	F	T	F			T		F	F	F		F		F	T	T			
F	T					F	F	T		F		T	F	F	F	T			F		T	T	F		T		F	F				
F	F					F	F	F		T		T	F	T	T	F			F		T	F	F		F		F	T	F			

PART 47:

A B C Y Z	$((A \rightarrow (B \rightarrow C)) \rightarrow ((A \wedge B) \rightarrow C)) \rightarrow ((Y \rightarrow B) \rightarrow (C \rightarrow Z))$									
T T T T T	T T	T T T	T	T T T	T T	T	T T T	T	T T T	
T T T T F	T T	T T T	T	T T T	T T	F	T T T	F	T F F	
T T T F T	T T	T T T	T	T T T	T T	T	F T T	T	T T T	
T T T F F	T T	T T T	T	T T T	T T	F	F T T	F	T F F	
T T F T T	T F	T F F	T	T T T	F F	T	T T T	T	F T T	
T T F T F	T F	T F F	T	T T T	F F	T	T T T	T	F T F	
T T F F T	T F	T F F	T	T T T	F F	T	F T T	T	F T T	
T T F F F	T F	T F F	T	T T T	F F	T	F T T	T	F T F	
T F T T T	T T	F T T	T	T F F	T T	T	T F F	T	T T T	
T F T T F	T T	F T T	T	T F F	T T	T	T F F	T	T F F	
T F T F T	T T	F T T	T	T F F	T T	T	F T F	T	T T T	

T	F	T	F	F	T	T	F	T	T	T	F	F	T	F	F	F	T	F	F
T	F	F	T	T	T	T	F	T	F	T	T	F	F	T	T	T	F	T	T
T	F	F	T	F	T	T	F	T	F	T	T	F	F	T	T	F	T	F	F
T	F	F	F	T	T	T	F	T	F	T	T	F	F	T	T	F	T	T	T
T	F	F	F	F	T	T	F	T	F	T	T	F	F	T	T	F	T	F	F
F	T	T	T	T	F	T	T	T	T	F	F	T	T	T	T	T	T	T	T
F	T	T	T	F	F	T	T	T	T	F	F	T	T	F	T	F	F	F	F
F	T	T	F	T	F	T	T	T	T	F	F	T	T	T	T	T	T	T	T
F	T	T	F	F	F	T	T	T	T	F	F	T	T	F	T	F	F	F	F
F	T	F	T	T	F	T	F	F	T	F	F	T	T	T	T	F	T	T	T
F	T	F	T	F	F	T	F	F	T	F	F	T	T	T	T	F	T	F	F
F	T	F	F	T	F	T	F	F	T	F	F	T	T	T	T	F	T	T	T
F	T	F	F	F	F	T	F	F	T	F	F	T	T	T	T	F	T	F	F
F	F	T	T	T	F	T	F	T	T	T	F	F	F	T	T	T	T	T	T
F	F	T	T	F	F	T	F	T	T	T	F	F	F	T	T	T	T	T	T
F	F	T	F	F	F	T	F	F	T	T	F	F	F	F	T	F	F	F	F
F	F	F	T	T	F	T	F	T	F	T	F	F	F	T	T	F	T	T	T
F	F	F	T	F	F	T	F	T	F	T	F	F	F	T	T	F	T	F	F
F	F	F	F	T	F	T	F	T	F	T	F	F	F	T	T	F	T	F	F
F	F	F	F	F	F	T	F	T	F	T	F	F	F	T	T	F	T	F	F

PART 48:

C X Y Z **(((X - Y) - Z) - (Z - (X - C))) - ((X - Z) - Y)**

[illegible]

F	F	F	F					F	T	F		F	F	T		F	T		F	T	F			F			F	T	F		F	F		
---	---	---	---	--	--	--	--	---	---	---	--	---	---	---	--	---	---	--	---	---	---	--	--	---	--	--	---	---	---	--	---	---	--	--

PART 49:

A	X	Y				(	(	A	∧	X	)	→	Y	)	→	(	(	A	→	X	)	∧	(	A	→	Y	)	)				
T	T	T						T	T	T		T	T	T	T			T	T	T		T		T	T	T						
T	T	F						T	T	T		F	F	T	T			T	T	T		F		T	F	F						
T	F	T						T	F	F		T	T	F	F			T	F	F		F		T	T	T						
T	F	F						T	F	F		T	F	F	F			T	F	F		F		T	F	F						
F	T	T						F	F	T		T	T	T	T			F	T	T		T		F	T	T						
F	T	F						F	F	T		T	F	T	T			F	T	T		T		F	T	F						
F	F	T						F	F	F		T	T	T	T			F	T	F		T		F	T	T						
F	F	F						F	F	F		T	F	T	T			F	T	F		T		F	T	F						

PART 50:

A	X	Y				(	A	→	(	X	∧	Y	)	)	→	(	(	A	→	X	)	∨	(	A	→	Y	)	)				
T	T	T						T	T		T	T	T		T			T	T	T		T		T	T	T						
T	T	F						T	F		T	F	F		T			T	T	T		T		T	F	F						
T	F	T						T	F		F	F	T		T			T	F	F		T		T	T	T						
T	F	F						T	F		F	F	F		T			T	F	F		F		T	F	F						
F	T	T						F	T		T	T	T		T			F	T	T		T		F	T	T						
F	T	F						F	T		T	F	F		T			F	T	T		T		F	T	F						
F	F	T						F	T		F	F	T		T			F	T	F		T		F	T	T						
F	F	F						F	T		F	F	F		T			F	T	F		T		F	T	F						

PART 51:

P	Q	(P ∧ Q) ∨ (P ∧ ~ Q)														
T	T				T	T	T		T		T	F	F	T		
T	F				T	F	F		T		T	T	T	F		
F	T				F	F	T		F		F	F	F	T		
F	F				F	F	F		F		F	F	T	F		

PART 52:

P			~	(	P	∧	~	P	)		
T			T		T	F	F	T			
F			T		F	F	T	F			

PART 53:

P			$\sim (P \vee \sim P)$					
T			F		T	T	F	T
F			F		F	T	T	F

PART 54:

P	Q			$\neg (P \wedge Q) \vee (\neg P \vee \neg Q)$										
T	T			F		T	T	T		F		F	T	F
T	F			T		T	F	F		T		F	T	T
F	T			T		F	F	T		T		T	F	T
F	F			T		F	F	F		T		T	F	T

PART 55:

P	Q			$\sim (P \vee Q) \vee (\sim P \wedge \sim Q)$										
T	T			F		T	T	T		F		F	T	F
T	F			F		T	T	F		F		F	T	F
F	T			F		F	T	T		F		T	F	T
F	F			T		F	F	F		T		T	F	T

PART 56:

P	Q			$(P \wedge Q) \vee (\sim P \wedge \sim Q)$										
T	T			T		T	T	T		F		F	T	F
T	F			T		F	F	F		F		F	T	F
F	T			F		F	T	T		T		F	F	T
F	F			F		F	F	F		T		F	T	F

PART 57:

P	Q			$\sim (P \vee (P \wedge Q))$										
T	T			F		T	T	T		T		T	T	T
T	F			F		T	T	T		T		F	F	F
F	T			T		F	F	F		F		F	T	T
F	F			T		F	F	F		F		F	F	F

PART 58:

P	Q			$\sim (P \vee (P \wedge Q)) \vee P$										
T	T			F		T	T	T		T		T	T	T
T	F			F		T	T	T		T		F	F	T

F	T			T		F	F		F	F	T			T	F
F	F			T		F	F		F	F	F			T	F

PART 59:

P	Q				(	P	∧	(	Q	∨	Q	)	)	∧	~	P
T	T					T	T		T	T	T			F	F	T
T	F					T	F		F	F	F			F	F	T
F	T					F	F		T	T	T			F	T	F
F	F					F	F		F	F	F			F	T	F

PART 60:

P	Q					(	(	P	↔	Q	)	→	P	)	→	P
T	T						T	T	T		T	T		T	T	
T	F						T	F	F		T	T		T	T	
F	T						F	F	T		T	F		F	F	
F	F						F	T	F		F	F		T	F	

PART 61:

P	Q			~	(	~	(	P	→	Q	)	→	P	)
T	T			F		F		T	T	T		T	T	
T	F			F		T		T	F	F		T	T	
F	T			F		F		F	T	T		T	F	
F	F			F		F		F	T	F		T	F	

PART 62:

P	Q				(	P	→	Q	)	↔	~	P
T	T					T	T		T		F	T
T	F					T	F		F		T	T
F	T					F	T		T		T	F
F	F					F	T		F		T	F

PART 63:

P	Q	$P \rightarrow (Q \rightarrow (P \wedge Q))$											
T	T				T	T		T	T	T			
T	F				T	F		T	F	F			
F	T				F	T		F	F	T			
F	F				F	T		F	F	F			

PART 64:

P	Q	$(P \vee Q) \leftrightarrow (\sim P \rightarrow Q)$											
T	T				T	T	T	T	F	T	T	T	
T	F				T	T	F	T	F	T	T	F	
F	T				F	T	T	T	T	F	T	T	
F	F				F	F	F	T	T	F	F	F	

PART 65:

P	Q	$\sim P \vee (P \rightarrow Q)$											
T	T				F	T	T	T	T	T			
T	F				F	T	F	T	F	F			
F	T				T	F	T	F	T	T			
F	F				T	F	T	F	T	F			

PART 66:

P	Q	$(P \rightarrow Q) \leftrightarrow (Q \rightarrow P)$											
T	T				T	T	T	T	T	T	T		
T	F				T	F	F	F	F	T	T		
F	T				F	T	T	F	T	F	F		
F	F				F	T	F	T	F	T	F		

PART 67:

P	Q	$(P \rightarrow Q) \leftrightarrow (\sim Q \rightarrow \sim P)$											
T	T				T	T	T	T	F	T	T	F	T
T	F				T	F	F	T	T	F	F	F	T

F	T				F	T	T		T		F	T	T	T	F		
F	F				F	T	F		T		T	F	T	T	F		

PART 68:

P	Q				(	P	∨	Q	)	↔	(	Q	∧	P	)		
T	T				T	T	T		T		T	T	T				
T	F				T	T	F		F		F	F	T				
F	T				F	T	T		F		T	F	F				
F	F				F	F	F		T		F	F	F				

PART 69:

P	Q	R				(	P	∨	Q	)	∨	(	P	∧	R	)		
T	T	T					T	T	T		T		T	T	T			
T	T	F					T	T	T		T		T	F	F			
T	F	T					T	T	F		T		T	T	T			
T	F	F					T	T	F		T		T	F	F			
F	T	T					F	T	T		T		F	F	T			
F	T	F					F	T	T		T		F	F	F			
F	F	T					F	F	F		F		F	F	T			
F	F	F					F	F	F		F		F	F	F			

PART 70:

P	Q	R	((P ↔ (Q ↔ R)) ↔ ((P ↔ Q) ↔ R))																				
T	T	T				T	T		T	T	T			T		T	T	T		T	T		
T	T	F				T	F		T	F	F			T		T	T	T		F	F		
T	F	T				T	F		F	F	T			T		T	F	F		F	T		
T	F	F				T	T		F	T	F			T		T	F	F		T	F		
F	T	T				F	F		T	T	T			T		F	F	T		F	T		
F	T	F				F	T		T	F	F			T		F	F	T		T	F		
F	F	T				F	T		F	F	T			T		F	T	F		T	T		
F	F	F				F	F		F	T	F			T		F	T	F		F	F		

PART 71:

P	Q	R				(	P	→	(	Q	∧	R	)	)	→	(	P	→	R	)		
T	T	T				T	T		T	T	T			T		T	T	T				
T	T	F				T	F		T	F	F			T		T	F	F				
T	F	T				T	F		F	F	T			T		T	T	T				
T	F	F				T	F		F	F	F			T		T	F	F				
F	T	T				F	T		T	T	T			T		F	T	T				
F	T	F				F	T		T	F	F			T		F	T	F				
F	F	T				F	T		F	F	T			T		F	T	T				

F	F	F					F	T		F	F	F			T		F	T	F		
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PART 72:

P	Q	R	(P → (Q ∨ R)) → (P → Q)																		
T	T	T					T	T		T	T	T			T		T	T	T		
T	T	F					T	T		T	T	F			T		T	T	T		
T	F	T					T	T		F	T	T			F		T	F	F		
T	F	F					T	F		F	F	F			T		T	F	F		
F	T	T					F	T		T	T	T			F		F	T	T		
F	T	F					F	T		T	T	F			F		F	T	T		
F	F	T					F	T		F	T	T			F		F	T	F		
F	F	F					F	T		F	F	F			F		F	T	F		

PART 73:

P	Q	R	((P → Q) → R) → (P → R)																	
T	T	T						T	T	T		T	T		T		T	T	T	
T	T	F						T	T	T		F	F		T		T	F	F	
T	F	T						T	F	F		T	T		T		T	T	T	
T	F	F						T	F	F		T	F		F		T	F	F	
F	T	T						F	T	T		T	T		T		F	T	T	
F	T	F						F	T	T		F	F		T		F	T	F	
F	F	T						F	T	F		T	T		T		F	T	T	
F	F	F						F	T	F		F	F		T		F	T	F	