

Sudoku

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1 section1

this is a sentence.

$$E = MC^2 E_a \tag{1}$$

game status

P1 \ P2	rock	scissor	paper
rock		P1	P2
scissor	P2		P1
paper	P1	P2	

State \ Symbol	R	S	P
Rock	T	F	F
Scissor	F	T	F
Paper	F	F	T

Player 1 status

<i>R</i>	<i>S</i>	<i>P</i>	<i>R</i> ₂	<i>S</i> ₂	<i>P</i> ₂	<i>Win</i> ₁	<i>Win</i> ₂	<i>Draw</i>	Satisfied
T	F	F	T	F	F	F	F	F	F
T	F	F	F	T	F	T	F	F	T
T	F	F	F	F	T	F	F	F	F
F	T	F	T	F	F	F	F	F	F
F	T	F	F	T	F	F	F	F	F
F	T	F	F	F	T	T	F	F	F
F	F	T	T	F	F	T	F	F	F
F	F	T	F	T	F	F	F	F	F
F	F	T	F	F	T	F	F	F	F
T	F	F	T	F	F	F	F	F	F
T	F	F	F	T	F	T	F	F	T
T	F	F	F	F	T	F	F	F	F
F	T	F	T	F	F	F	F	F	F
F	T	F	F	T	F	F	F	F	F
F	T	F	F	F	T	T	F	F	F
F	F	T	T	F	F	T	F	F	F
F	F	T	F	T	F	F	F	F	F
F	F	T	F	F	T	F	F	F	F

R	S	P	R_2	S_2	P_2	Win_1	Win_2	$Draw$	Satisfied
T	F	F	T	F	F	F	F	T	T
T	F	F	F	T	F	T	F	F	T
T	F	F	F	F	T	F	T	F	T
F	T	F	T	F	F	F	T	F	T
F	T	F	F	T	F	F	F	T	T
F	T	F	F	F	T	T	F	F	T

⋮

T	T	F	T	F	F	F	F	F	F
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$$fact1 \wedge fact2 \wedge fact3 \wedge \dots \wedge factN$$

$$(A \vee B \vee C \dots) \wedge (D \vee E \vee F \dots) \wedge (\dots$$

$$(A \text{ or } B \text{ or } C \dots) \text{ and } (D \text{ or } E \text{ or } F \dots) \text{ and } (\dots$$

$$P \Rightarrow Q$$

P	Q	$P \Rightarrow Q$
T	T	T
F	T	T
F	F	T
T	F	F

$$R \Leftrightarrow \neg P \wedge \neg S \quad (2)$$

$$(R \vee (\neg P \wedge \neg S)) \wedge (\neg R \vee \neg P \vee \neg S) \quad (3)$$

$$(R \vee S \vee P) \quad (4)$$

$$(\neg R \vee (\neg S \wedge \neg P)) \wedge (R \vee S \vee P) \quad (5)$$

$$(\neg R \vee (\neg S \wedge \neg P)) \quad (6)$$

$$(\neg R \vee (\neg S \wedge \neg P)) \wedge (\neg S \vee (\neg R \wedge \neg P)) \wedge (\neg P \vee (\neg S \wedge \neg R)) \quad (7)$$

$$(\neg R \vee \neg P) \wedge (\neg R \vee \neg S) \wedge (\neg S \vee \neg P) \quad (8)$$

$$\underbrace{(\neg R \vee \neg P) \wedge (\neg R \vee \neg S) \wedge (\neg S \vee \neg P)}_{\text{at most one}} \wedge \underbrace{(R \vee S \vee P)}_{\text{at least one}} \quad (9)$$

math	python
\neg	not
\sim	not
\vee	or
\wedge	and

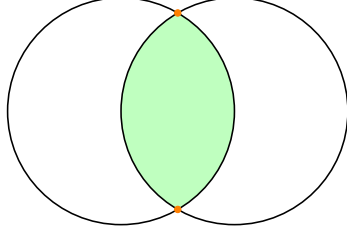
$$P \Rightarrow R1, R \Rightarrow S1, S \Rightarrow P1 \quad (10)$$

$$(\neg P \vee R) \wedge (\neg P \vee S) \wedge (\neg R \vee S) \quad (11)$$

$$R_{(x,y)} \quad (12)$$

$$R_{(0,0)}, R_{(x_max, y_max)} \quad (13)$$

$$R_{(0,0)} \wedge R_{(x_max, y_max)} \wedge \dots \quad (14)$$



$$R_{(1,3)} \Rightarrow R_{(2,3)} \quad (15)$$

$$R_{(x,h)} \Rightarrow R_{(x+1, y_max)} \quad (16)$$

$$R_{(w,y)} \Rightarrow R_{(x_max, y+1)} \quad (17)$$

$$R_{(1, 1)} \Rightarrow R_{(2, 1)} \vee R_{(1, 2)} \quad (18)$$

$$(\neg R_{(1, 1)} \vee R_{(2, 1)} \vee R_{(1, 2)}) \quad (19)$$

$$R_{(2, 1)} \Rightarrow \neg R_{(1, 2)} \quad (20)$$

$$R_{(1, 2)} \Rightarrow \neg R_{(2, 1)} \quad (21)$$

$$(\neg R_{(2, 1)} \vee \neg R_{(1, 2)}) \wedge (\neg R_{(1, 2)} \vee R_{(2, 1)}) \quad (22)$$

$$(\neg R_{(2, 1)} \vee \neg R_{(1, 2)}) \quad (23)$$

$$\dots \wedge (\neg R_{(1, 1)} \vee R_{(2, 1)} \vee R_{(1, 2)}) \wedge (\neg R_{(2, 1)} \vee \neg R_{(1, 2)}) \wedge \dots \quad (24)$$

$$R_{(3,0)} \Rightarrow R_{(3,1)} \quad (25)$$

$$\dots \wedge (\neg R_{(3,0)} \vee R_{(3,1)}) \wedge \dots \quad (26)$$

$$R_{(0,3)} \Rightarrow R_{(1,3)} \quad (27)$$

$$\dots \wedge (\neg R_{(0,3)} \vee R_{(1,3)}) \wedge \dots \quad (28)$$

$$(R \wedge S_2) \Rightarrow W_{in1} \quad (29)$$

$$\neg(R \wedge S_2) \vee W_{in1} \quad (30)$$

$$\neg R \vee \neg S_2 \vee W_{in1} \quad (31)$$

$$\dots \wedge (\neg R \vee \neg S_2 \vee W_{in1}) \wedge \dots \quad (32)$$