

Εργαστήριο Τεχνητή Νοημοσύνη II

Παύλος Πέππας

Τμήμα Ηλεκτρολόγων Μηχανικών
και Τεχνολογίας Υπολογιστών

Mini Sudoku

2	3		
4			2
		1	
		2	

Mini Sudoku

2	3		
4			2
		1	
		2	

fixed(1,1,2). fixed(1,2,3).

fixed(2,1,4). fixed(2,4,2).

fixed(3,3,1).

fixed(4,3,2).

`:- fixed(X,Y,I1), value(X,Y,I2), I1 != I2.`

•
•
•

`#show value/3.`

Mini Sudoku – Λύση

2	3		
4			2
		1	
		2	

fixed(1,1,2). fixed(1,2,3).

fixed(2,1,4). fixed(2,4,2).

fixed(3,3,1).

fixed(4,3,2).

sameBox(2*Bottom+X1,2*Left+Y1,2*Bottom+X2,2*Left+Y2) :-

Bottom=0..1, Left=0..1, X1=1..2, X2=1..2, Y1=1..2, Y2=1..2.

:- fixed(X,Y,I1), value(X,Y,I2), I1 != I2.

:- value(X,Y1,I), value(X,Y2,I), Y1 != Y2.

:- value(X1,Y,I), value(X2,Y,I), X1 != X2.

:- sameBox(X1,Y1,X2,Y2), value(X1,Y1,I), value(X2,Y2,I),

X1 != X2, Y1 != Y2.

#show value/3.

Sudoku

5	3			7				
6			1	9	5			
	9	8					6	
8				6				3
4			8		3			1
7				2				6
	6					2	8	
			4	1	9			5
				8			7	9

Sudoku

5	3			7				
6			1	9	5			
	9	8					6	
8				6				3
4			8		3			1
7				2				6
	6					2	8	
			4	1	9			5
				8			7	9

fixed(1,1,5). fixed(1,2,3). fixed(1,5,7).
 fixed(2,1,6). fixed(2,4,1). fixed(2,5,9). fixed(2,6,5).
 fixed(3,2,9). fixed(3,3,8). fixed(3,8,6).
 fixed(4,1,8). fixed(4,5,6). fixed(4,9,3).
 fixed(5,1,4). fixed(5,4,8). fixed(5,6,3). fixed(5,9,1).
 fixed(6,1,7). fixed(6,5,2). fixed(6,9,6).
 fixed(7,2,6). fixed(7,7,2). fixed(7,8,8).
 fixed(8,4,4). fixed(8,5,1). fixed(8,6,9). fixed(8,9,5).
 fixed(9,5,8). fixed(9,8,7). fixed(9,9,9).

1 { value(X,Y,I): I=1..9 } 1 :- X=1..9, Y=1..9.

sameBox(3*Bottom+X1,3*Left+Y1,3*Bottom+X2,3*Left+Y2) :-
 Bottom=0..2, Left=0..2, X1=1..3, X2=1..3, Y1=1..3, Y2=1..3.

:- fixed(X,Y,I1), value(X,Y,I2), I1 != I2.

.
 .
 .

Sudoku – Λύση

5	3			7				
6			1	9	5			
	9	8					6	
8				6				3
4			8		3			1
7				2				6
	6					2	8	
			4	1	9			5
				8			7	9

fixed(1,1,5). fixed(1,2,3). fixed(1,5,7).

fixed(2,1,6). fixed(2,4,1). fixed(2,5,9). fixed(2,6,5).

fixed(3,2,9). fixed(3,3,8). fixed(3,8,6).

fixed(4,1,8). fixed(4,5,6). fixed(4,9,3).

fixed(5,1,4). fixed(5,4,8). fixed(5,6,3). fixed(5,9,1).

fixed(6,1,7). fixed(6,5,2). fixed(6,9,6).

fixed(7,2,6). fixed(7,7,2). fixed(7,8,8).

fixed(8,4,4). fixed(8,5,1). fixed(8,6,9). fixed(8,9,5).

fixed(9,5,8). fixed(9,8,7). fixed(9,9,9).

1 { value(X,Y,I): I=1..9 } 1 :- X=1..9, Y=1..9.

sameBox(3*Bottom+X1,3*Left+Y1,3*Bottom+X2,3*Left+Y2) :-
Bottom=0..2, Left=0..2, X1=1..3, X2=1..3, Y1=1..3, Y2=1..3.

:- fixed(X,Y,I1), value(X,Y,I2), I1 != I2.

:- value(X,Y1,I), value(X,Y2,I), Y1 != Y2.

:- value(X1,Y,I), value(X2,Y,I), X1 != X2.

:- sameBox(X1,Y1,X2,Y2), value(X1,Y1,I), value(X2,Y2,I), X1 != X2, Y1 != Y2.

#show value/3.