

# Sudoku for NAV

*Creates and solves Sudokus*

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NAV Version: 11.0 (NAV2018)

## General

Sudoku for NAV let you create and solve sudokus (9x9), mini-sudokus (4x4) and maxi-sudokus (16x16). You can let the program create a new sudoku, or you can enter the known values yourself. You can ask the program for one extra number, or let the program solve the whole sudoku.

*Main screen:*

**Edit - Sudoku**

HOME ACTIONS NAVIGATE

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New (4x4) New (9x9) New (16x16) Setup View List Edit List Find One Find All Backup Restore Generate Print Show as List Show as Chart OneNote Notes Links Refresh Clear Filter Find

Sudoku Filter: 0..12

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

Sudoku Factbox

Size: 9  
Include Diagonals: No  
Created at: 29-1-2019 14:14  
Stored at: 29-1-2019 14:15  
28

OK

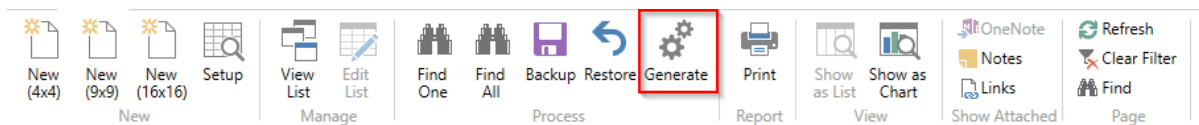
## New Sudoku

Choose one of the three New buttons to create a new sudoku. A new sudoku will be empty. You can enter the initial values yourself or use the Generate button to let the program generate a sudoku for you.

New (4x4) New (9x9) New (16x16) Setup View List Edit List Find One Find All Backup Restore Generate Print Show as List Show as Chart OneNote Notes Links Refresh Clear Filter Find

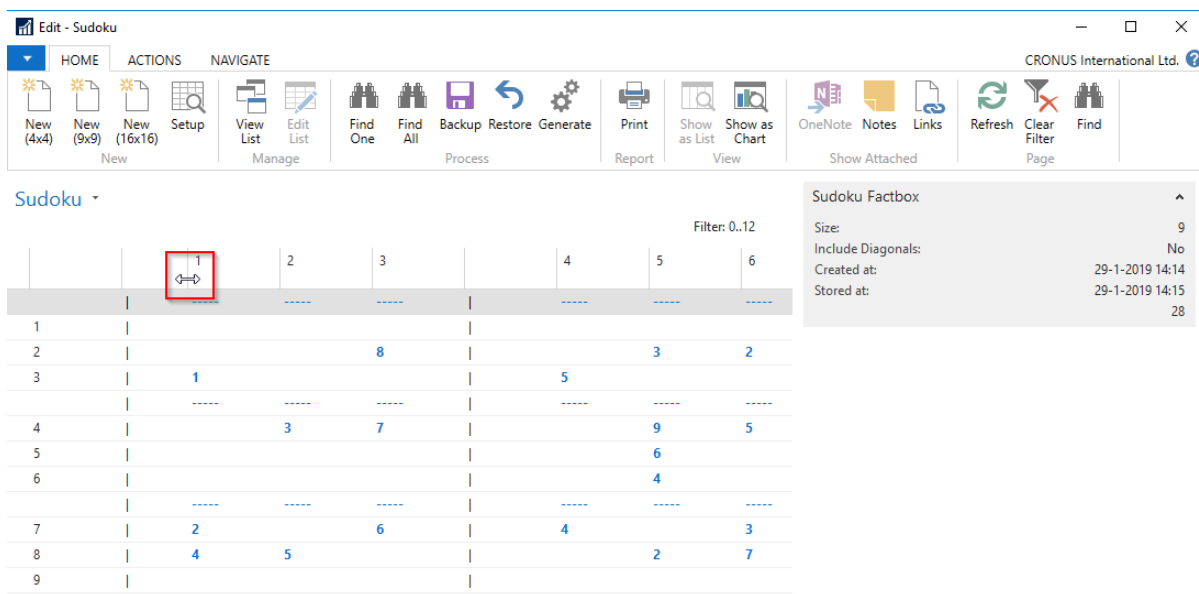
## Generate Sudoku

The Generate function generates a new sudoku by choosing randomly from one of the remaining options. Each choice is validated, which will reduce the number of remaining options. After 17 choices (which is the minimum number of values for a valid 9x9 sudoku) the generator uses the Find All-function to check whether there is a solution. If there is a complete solution, the generator stops and is ready. If it encounters an empty field without any remaining option, then the combination of choices is wrong, and the generator starts all over again. If no solution is found yet, but all empty fields have one or some options left, then the generator chooses another value randomly from the remaining options and continues.



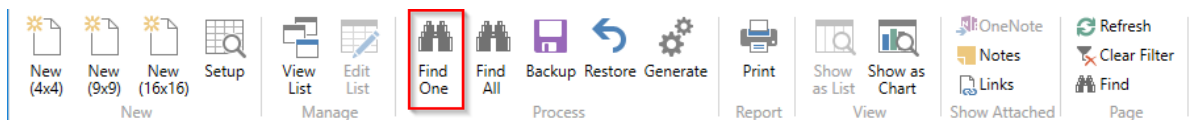
## Resize columns

Unfortunately the page shows all columns too wide. You'll need to resize all columns for getting a better view. The easiest way is to double click on all column separators, as indicated below.



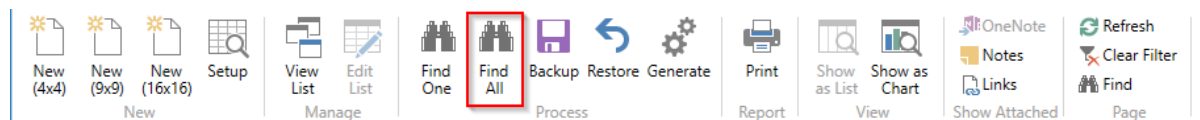
## Find One

Use the Find One button to find one extra number. This is always a number that you could have deducted yourself. It's the only possible value for that position.



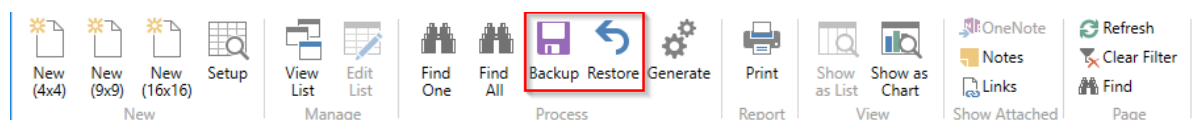
## Find All

Use the Find All button to find all values and solve the sudoku, if possible. I cannot guarantee that this program can solve all sudokus. For sure it can solve the sudokus that it has generated itself, but maybe there are existing sudokus that cannot be solved by this program. If you encounter one, please send it to me, and I will try to improve my program.



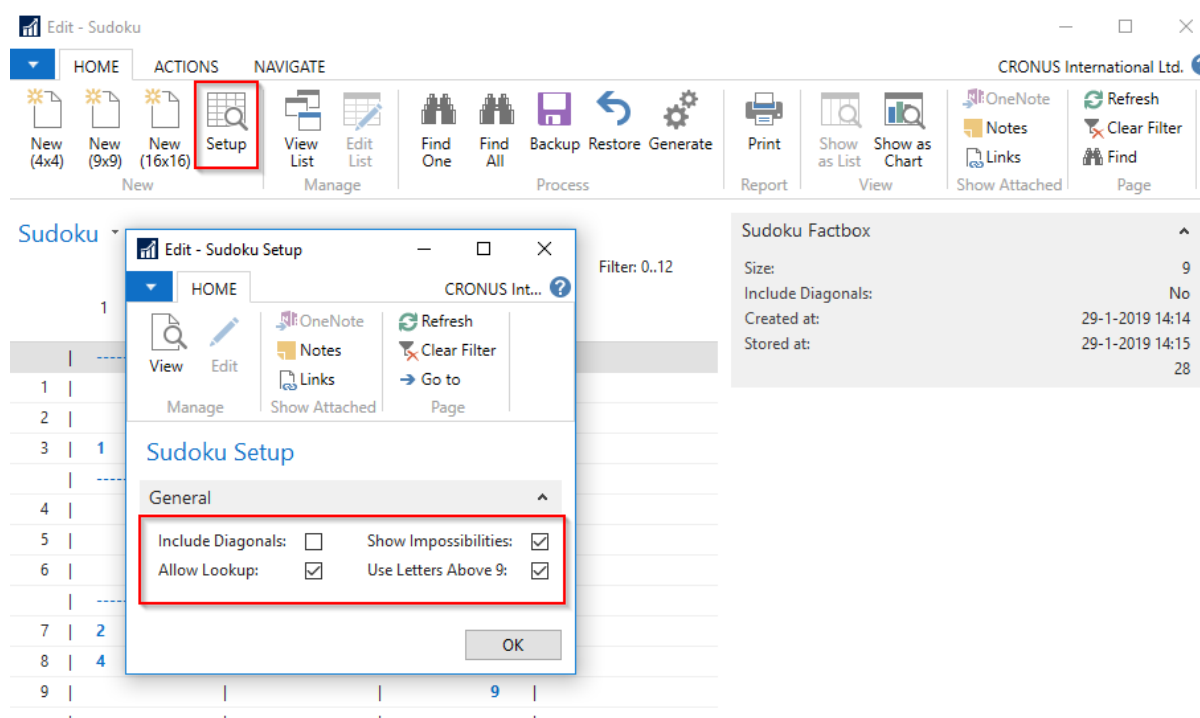
## Backup and Restore

The Backup function stores the current status of the sudoku in the backup list. You can retrieve it later using the Restore function.



## Setup

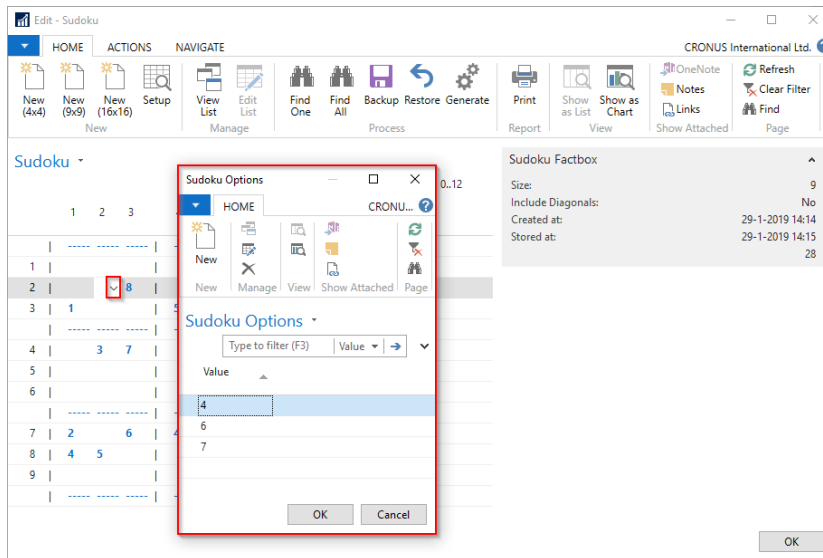
The Setup has 4 choices that can be enabled or disabled:



- **Include Diagonals:** when enabled, the next sudoku you create must have unique values on both diagonals as well. This is also indicated in the factbox.  
Note that generating a new sudoku takes on average more time when this option is enabled.
- **Allow Lookup:** when enabled, each empty field has a lookup that shows a list of all remaining options for that field.

- **Show Impossibilities:** when enabled, you'll see a cross in the empty fields that don't have remaining options left. This means that your sudoku is not correct and you'll need to clear one or some of the fields.
- **Use Letters Above 9:** when enabled, the maxi-sudoku (16x16) will use the letters A to G instead of the numbers 10 to 16.

*Example of a lookup:*



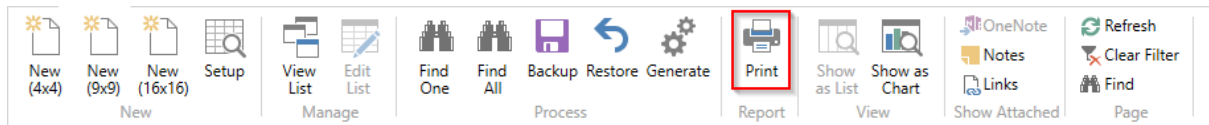
*Example of two impossibilities:*



The combination of values that are entered already must be wrong, because they don't allow any value on the indicated spots.

## Print

Use this function to print the sudoku.



*Example:*

Print Preview

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### Sudoku

Created at: 29-1-2019 14:14:59  
Include diagonals: No

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

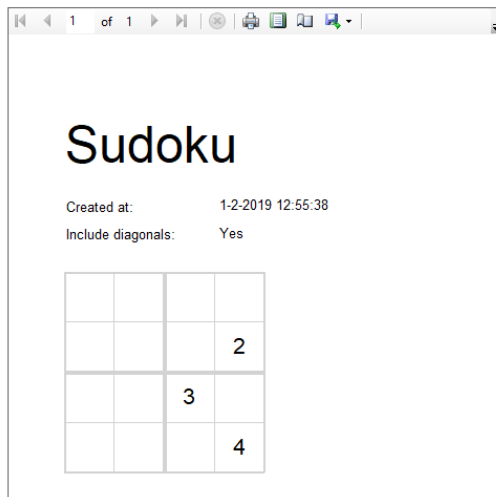
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## Mini Sudoku

The mini-sudoku (4x4) is nice for young children, or when you want to solve a sudoku quickly. Did you know that in case diagonals are included, sometimes only 3 values are needed to define a valid sudoku with one single solution?

*Example:*

Sudoku



## Maxi Sudoku

A maxi sudoku (16x16) is hard to generate. Each time the Generate function ends up with a set of chosen numbers that doesn't have a solution anymore, and it will try again, and again... However, you can enter the values yourself if you find such a sudoku in the newspaper or so, and you want to solve it by using this program.

## Objects

