

Logic Programming: Solving a Puzzle

We hope that you know Sudoku. In this exercise we discuss a Mini-Sudoku, which is a simplified Sudoku.

A Mini-Sudoku consists of a table with 3 rows and 3 columns. It's the aim to place in every of the nine fields one number from the set {1, 2, 3}. However there are some constraints that have to be considered: In every row and in every column the numbers need to be different.

1	2	3
2	3	1
3	1	2

The Mini-Sudoku may start with some numbers fixed at some fields.

Exercise

1. Think about to write a program in a (object-oriented or procedural) programming language like JAVA, C++, Basic, etc. which solves the puzzle automatically.
2. Write a PROLOG Program that solves the Mini-Sudoku.
 - a. How can a solution be encoded? I.e. how can we represent that this is a valid combination of numbers?
 - b. To check a valid combination of numbers which conditions are needed to be satisfied?