**Constraint Satisfaction Report**

Constraint satisfaction deals with problems where there are a finite number of variables, each of which has a finite domain and these variables have constraints which restrict the values the variables can take at the same time.

Sudoku is a good simple example, there are 9 variables, the domain for each is 1-9 inclusive, and the constraints are that each row and column can only contain the numbers 1 to 9 appearing once.

**Consistency Techniques**

Consistency is achieved by removing redundant values from the domain. GAC,

Idea: prune the domains as much as possible before selecting values from them.

A variable is domain consistent if no value of the domain of the node is ruled impossible by any of the constraints.

Example: dom(B) = {1, 2, 3, 4} isn’t domain consistent if we have the constraint B ̸= 3.

**Bibliography**

[Kevin Leyton-Brown](https://www.cs.ubc.ca/people/kevin-leyton-brown) (Unknown). CSP’s Arc Consistancy [online] Available at https://www.cs.ubc.ca/~kevinlb/teaching/cs322%20-%202009-10/Lectures/CSP3.pdf