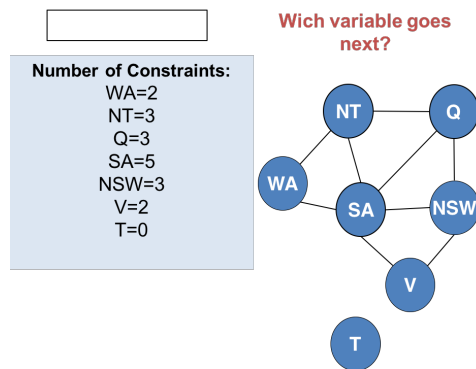


The Backtracking method as we have applied it up to now, is a blind search. In order to reduce the search space, we can define general-purpose heuristics, which are related to the search process itself, rather than to the particular problem.

Working with the problem of colouring the map of Australia with red, green and blue colours, answer the following questions that arise when applying Backtracking in the following cases:

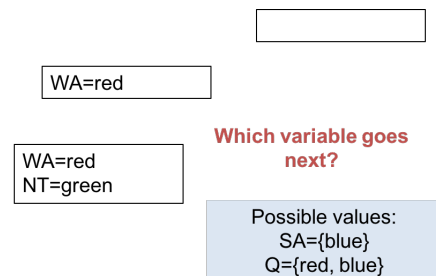
1. VARIABLE SELECTION



Degree Heuristic is related to the selection of the variable that participates *in more or less restrictions*.

- Which variable would be better to select, Tasmania with 0 restrictions, Victoria with 2 or South Australia (SA) with 5 restrictions? Why?

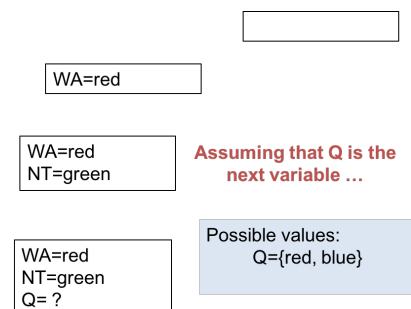
2. VARIABLE SELECTION



MRV: *Minimum/Maximum Remaining Values*

- Which variable would be better to choose, SA or Q? Why?

3. VALUE SELECTION



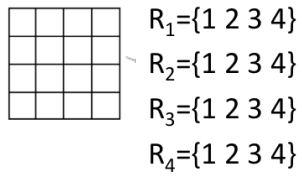
LCV: *Selects the value that appears in fewer/more constraints*

- Assuming that Q is the next variable ... (and not SA), Which value would be better to choose, red or blue? Why?

4. FORWARD CHECKING

Apply FC to the 4-Queens problem, starting from the following initial state:

¿What differences could you find in comparison with Arc-Consistency?

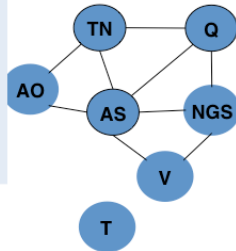


5. ARC-CONSISTENCY

Applying the general purpose heuristics and arc-consistency:

Número de restricciones:

AO=2
 TN=3
 Q=3
 AS=5
 NGS=3
 V=2
 T=0



Heuristic	AO	TN	AS	Q	NGS	V	T
	R V A	R V A	R V A	R V A	R V A	R V A	R V A
Heuristic Degree							