Excercise 1 (Color Mixing). Represent colors as propositional CHR constraints red, blue,.... Write simplification rules that describe the result of mixing two primary colors, e.g.
   red, yellow $\iff$ orange.
Observe what happens if you have all three primary colors, in different orders, in the query. How do you ensure that the answer is always the same, say brown?

Excercise 2. In an example from geometry, assume that lines are given by variables (or constants) and that CHR constraints express the relationships between two lines, parallel and orthogonal. Write propagation rules that derive further such relationships from the given relationships, e.g.
   parallel(L1,L2), parallel(L2,L3) $\implies$ parallel(L1,L3).
Ensure termination.

Excercise 3. Compute the factorial of a number $n$, given fact(1),...,fact(n).

Excercise 4. Compute the factorial of a number $n$, given only fact(n), i.e. add rules to generate candidates.

Excercise 5. Implement the Sieve of Erathostenes:
   gen @ upto(N) $\iff$ N>1 | M is N-1, upto(M), prime(N).
   sift @ prime(X) \ prime(Y) $\iff$ Y mod X =:= 0 | true.
Test the program, then modify it such that it factorizes natural numbers.