Problem Solving and Search in AI
Tutorial 5 (on June 23rd)

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Exercise 5.1:

Consider the following *crossword puzzle*, where a given list of words can be used to fill the empty spaces.

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

AFT	LASER
ALE	LEE
EEL	LINE
HEEL	SAILS
HIKE	SHEET
HOSES	STEER
KEEL	TIE
KNOT	

a) Formalize the problem as a CSP and draw the *constraint graph*.

b) Reduce the domains of the variables by applying the constraint propagation method *arc consistency*.

c) Is constraint propagation enough to solve the CSP? Use a search algorithm with forward checking and the degree heuristic to obtain all solutions of the CSP.