

Note:

- Will assign homework 1 today

CS5811

Sep 23, 2020

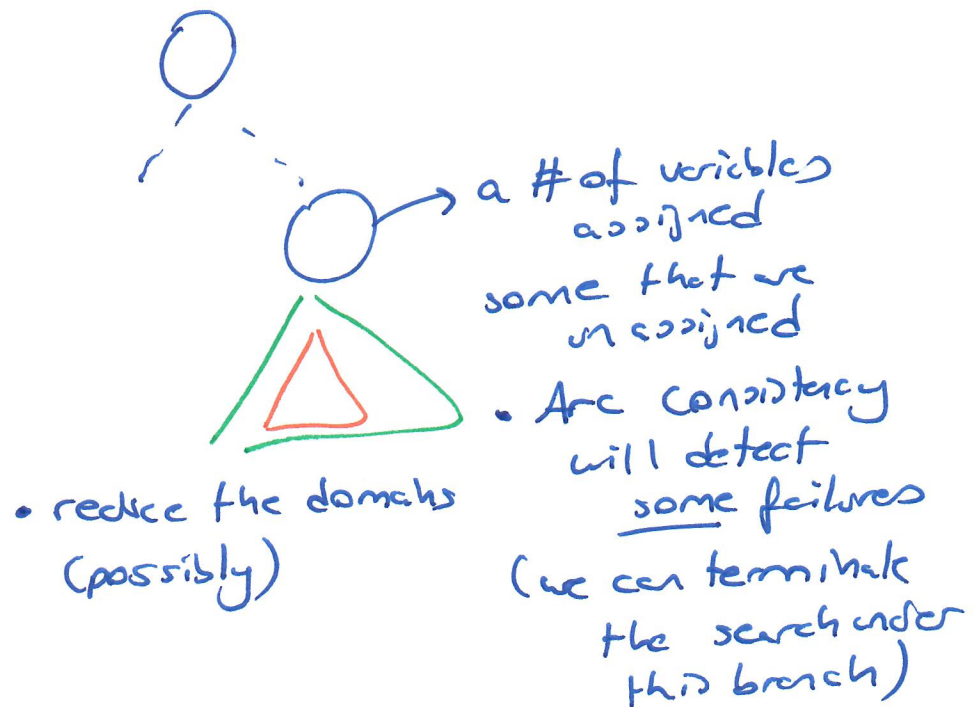
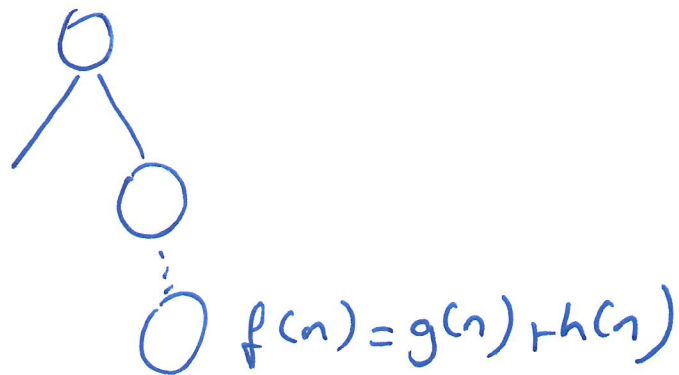
Wednesday ①

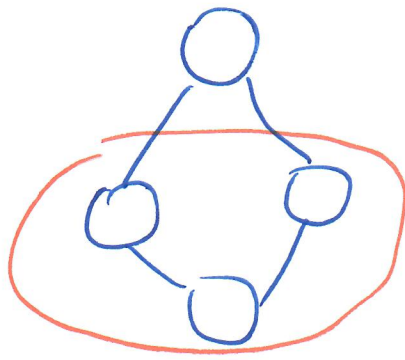
Previous class

- Constraint Satisfaction Problems (CSPs)
- Heuristics, arc consistency

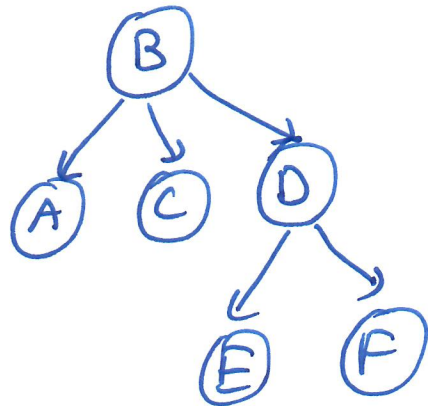
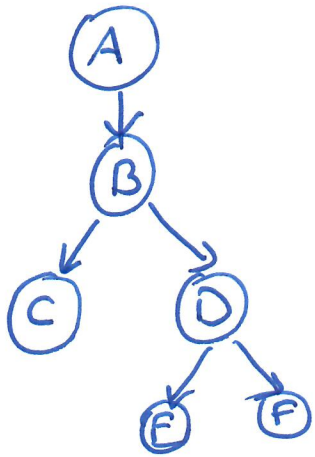
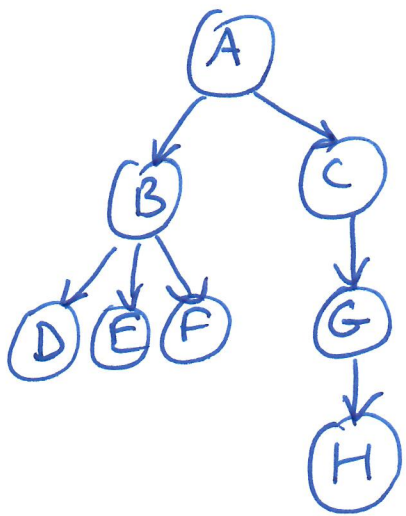
Today

- CSPs taking advantage of the problem structure
- Temporal CSPs: Interval Algebra (IA)





tree:
no cycles
OR
each node has
at most one parent.



③

(A) $z_1, z_2, \dots, z_{10}$ $A \rightarrow B$

(B) $y_1, y_2, y_3, \cancel{y_4}$ $B \rightarrow C$

(C) $\cancel{x_2}, x_3$

are consistency for
 $C \rightarrow D$

polynomial
time

(D) x_1, x_2, x_3

A : z_6

assign a solution

B : y_3

size of the tree

C : x_3

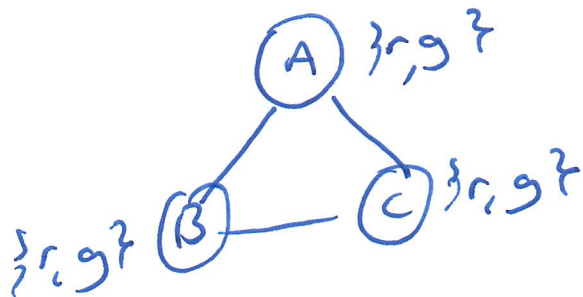
A var_t : $\begin{array}{c} \text{---} \\ \downarrow \end{array}$

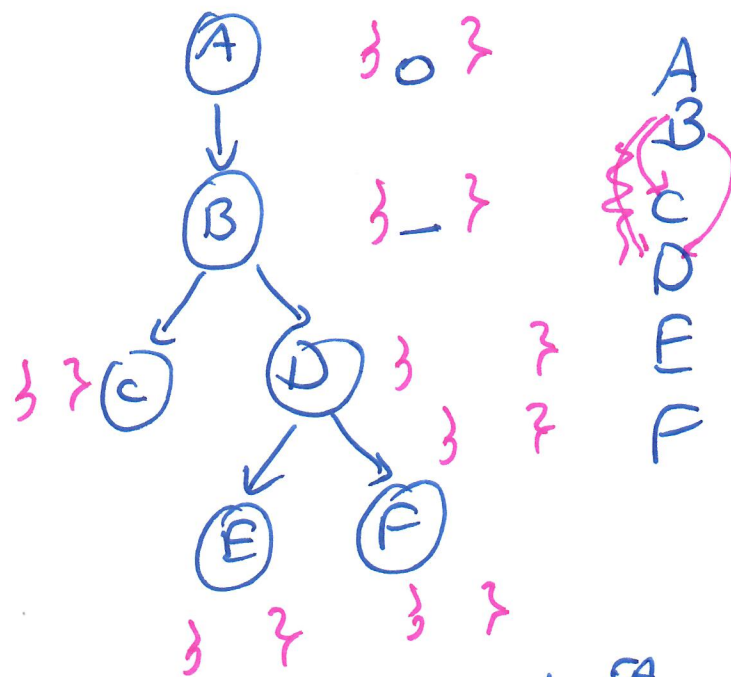
D : x_1

B : $\text{---} \text{---} \text{---}$

C :

$n \times d$





d For every possible value of SA
 [solve the remaining tree
 structured problem]

SA = red
 WA = ~~red~~ ...
 NT = red ..

a convenient node

cutset: 1 variable d
 2

For every possible assignment to v_1 and v_2
 d x d d 2

cutset size : S d^S