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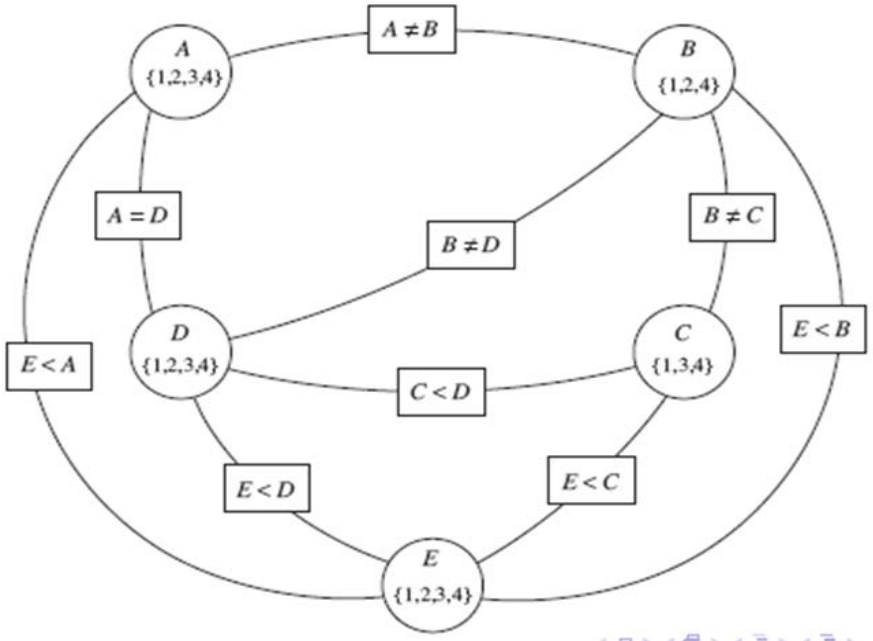
Note Title 2014-03-25




```
1:  procedure GAC(V, dom, C)
2:      Inputs
3:          V: a set of variables
4:          dom: a function such that dom(X) is the domain of variable X
5:          C: set of constraints to be satisfied
6:      Output
7:          arc consistent domains for each variable
8:      Local
9:          D_X is a set of values for each variable X
10:         TDA is a set of arcs
11:     for each variable X do
12:         D_X ← dom(X)
13:         TDA ← {⟨X, c⟩ | c ∈ C and X ∈ scope(c)}
14:     while TDA ≠ {} do
15:         select ⟨X, c⟩ ∈ TDA;
16:         TDA ← TDA \ {⟨X, c⟩};
17:         ND_X ← {x | x ∈ D_X and some {X = x, Y_1 = y_1, ..., Y_k = y_k} ∈ c
    where y_i ∈ D_{Y_i} for all i}
18:         if ND_X ≠ D_X then
19:             TDA ← TDA ∪ {⟨Z, c'⟩ | X ∈ scope(c'), c' is not c, Z ∈ scope(c') \
    {X}}
20:             D_X ← ND_X
21:     return {D_X | X is a variable}
```

Ex. 4.21 [P]

A, B, C $Dom(A) = Dom(B) = Dom(C) = \{1, 2, 3\}$