1 S B A G2
2 ABCD
3 A. min  B. left column, 2nd row
4  
A. the 2nd node has candidate labels reduced to \{-\}
B. all nodes get their correct label
5  
A. x converge to 0 the minimum
B. x diverges
6 A
7 (top down, left to right) 5.5, 5.5, -1, 2, 7
8 3 2
9 1 1
10 0.5
11 two remaining cells on the 3rd row: (8,6), (5,6)
12 7
13 Same as P :-} Q
14 A. \{x/A, y/right(A)\}
B. \{x/y, y/A, z/right(A)\}
C. fail
15 prune two branches: that to -2 and to 2.  root=1.
16 KB=>CNF:
1. ~P v Q
2. R
3. ~Q
Negate query
4. ~R v P
Add 4 to KB, resolve:
2, 4 => 5. P
5, 1 => 6. Q
6, 3 => false
17 1. V(I,Duck,Tele)^L(I,Park)
2. V(I,Duck,Tele)^L(Duck,Park)
3. \exist x: V(I,Duck,x)^L(I,Park)^L(Tele,Park)
4. \exist x: V(I,Duck,x)^L(Duck,Park)^L(Tele,Park)
5. V(I,Duck,Tele)^L(I,Park)^L(Duck,Park)
We can introduce another predicate Cut(x,y,z): x cuts(using a sawing motion) y with tool z
Then one can replace all V() with Cut() for more interpretations.
17. This is DFS and it will loop forever.

18. Show that the KB entails empty.

19. C.

\[ o--(1)--o--(-1)--o--(2)--o \]

A loop with negative edge weight is not fine

20

A. strict dominating strategy: (work, work)
B. if A,B communicate, they can agree on (slack, slack)
C. you can change the outcome matrix, e.g. let (slack, slack)=-1 (cut off their communication is not a good idea :-)