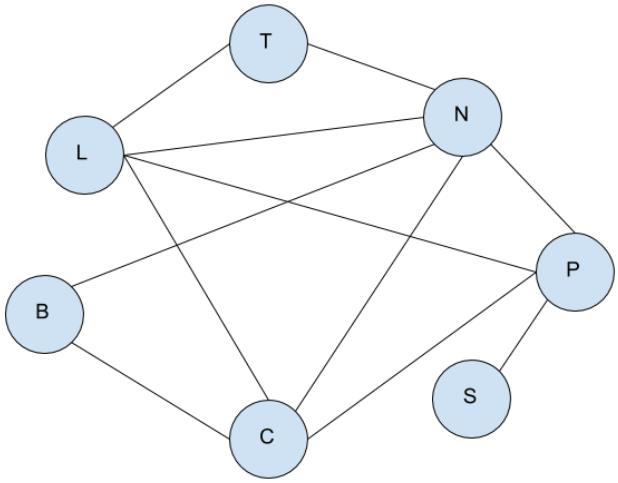
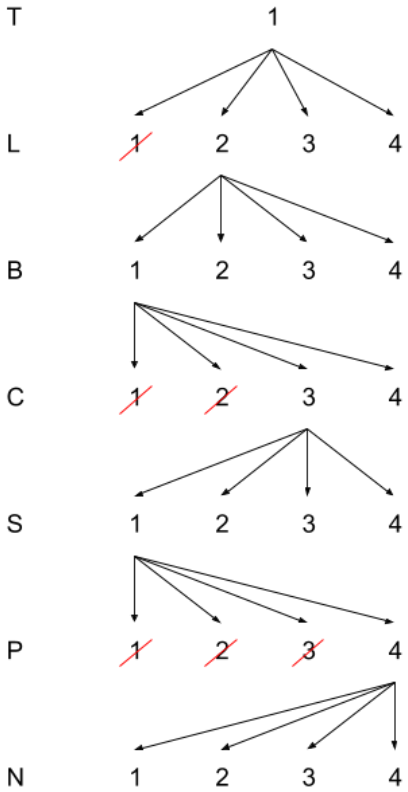
Artificial Intelligence Concepts
Assignment Three
Ryan Lebeau

Q1

1.



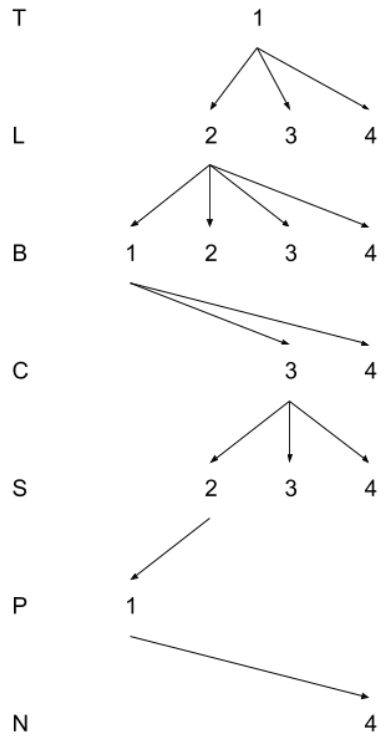
2. a.



b.

Variable	List all values eliminated from neighboring variables	Backtracking
T	none	
L	none	Y
L	none	
B	none	
C	none	Y
C	none	Y
C	none	
S	none	
P	none	Y
P	none	Y
P	none	Y
P	none	

3. a.

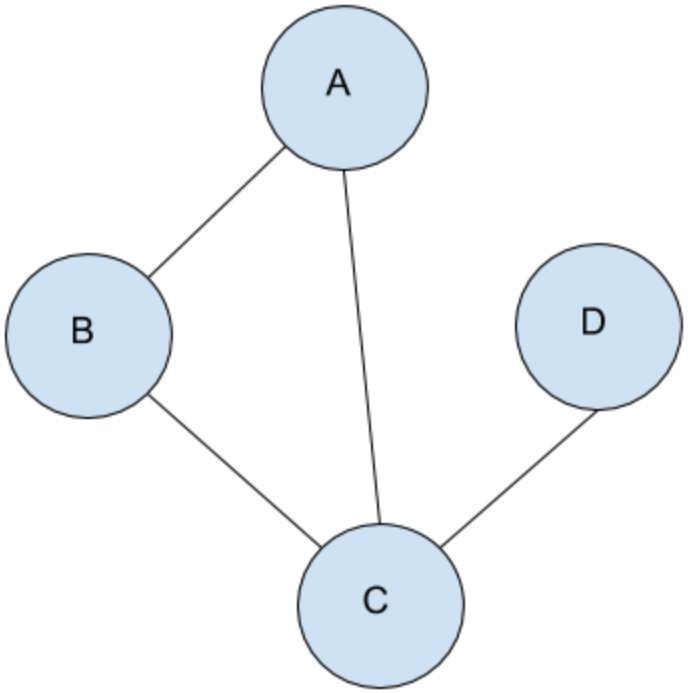


b.

Variable	List all values eliminated from neighboring variables	Backtracking
T	L != 1, N != 1	
L	P != 2, N != 2, C != 2	
B	C != 1	
C	N !=3, P != 3	
N	P !=4	
P	S != 1	
S	none	
P	none	
N	none	

Q2

1.



2. Alice and pasta
   Bob and risotto
   Carol and pasta
   Donald and risotto
3. Eliminated for Bob - pasta
   Eliminated for Carol - quesadilla, sushi, risotto
   Eliminated for Donald - none

Q3

1. ∃(S), c(a, S)
2. ∀(S), s(b,S) -> c(b,S)
3. ∃(S), c(a,S) ^ l(d,S)
4. ¬∃(S), l(d,S) ^ m(S) ^ c(a,S)
5. ∀(P), [∃(S), l(P,S)] -> l(P,y)
6. ∃(P) ∀(S), s(b,S) -> l(P,S)
7. ∀(P,S), c(P,S) -> l(P,S)
8. ¬∃(S), l(a,S) ^ [c(d,S) v c(b,S)]

Q4

Prolog file included in .zip