

Forward Chaining General Notes 3

Testcase 1: ((p) (q (p)) (r (q s t)) (s (p u)) (r (q h)) (t) (h (t)) (u (v)))

1. Algorithm goes to (p), and adds it to the conclusion set because it is a fact.
2. Algorithm goes to (q (p)), and adds it to conclusion set because the body is already in the conclusion set and the head is not.
3. Algorithm goes to (r (q s t)) but does not add to CS because not all body is in CS.
4. Algorithm goes to (s (p u)) but does not add to CS because not all body is in CS.
5. Algorithm goes to (r (q h)) but does not add to CS because not all body is in CS.
6. Algorithm goes to (t), and adds it to the conclusion set because it is a fact.
7. Algorithm goes to (h (t)) and adds it to conclusion set because the body is already in the conclusion set and the head is not.
8. Algorithm goes to (u (v)) but does not add to CS because not all body is in CS.
9. Algorithm goes down the list again adding r to the CS with rule (r (q h)) because the body is already in the conclusion set and the head is not.
10. No more atoms can be added to the CS, so fail.

Testcase 2: ((q (p)) (p (l m)) (m (b l)) (l (a p)) (l (a b)) (a) (b))

1. Goes to (q (p)) but does not add to CS because not all body is in CS.
2. Goes to (p (l m)) but does not add to CS because not all body is in CS.
3. Goes to (m (b l)) but does not add to CS because not all body is in CS.
4. Goes to (l (a p)) but does not add to CS because not all body is in CS.
5. Goes to (l (a b)) but does not add to CS because not all body is in CS.
6. Goes to (a), adds to CS because it is a fact.
7. Goes to (b), adds to CS because it is a fact.
8. Back to the top of rules.
9. Goes to (q (p)) but does not add to CS because not all body is in CS.
10. Goes to (p (l m)) but does not add to CS because not all body is in CS.
11. Goes to (l (a p)) but does not add to CS because not all body is in CS.
12. Goes to (l (a b)) and adds it to conclusion set because the body is already in the conclusion set and the head is not.
13. Back to the top of rules.
14. Goes to (q (p)) but does not add to CS because not all body is in CS.
15. Goes to (p (l m)) but does not add to CS because not all body is in CS.
16. Goes to (m (b l)) adds it to conclusion set because the body is already in the conclusion set and the head is not.
17. Back to the top of rules.
18. Goes to (q (p)) but does not add to CS because not all body is in CS.
19. Goes to (p (l m)) adds it to conclusion set because the body is already in the conclusion set and the head is not.
20. Back to top of rules.
21. Goes to (q (p)) adds it to conclusion set because the body is already in the conclusion set and the head is not.
22. Solution found, all atoms have been added to conclusion set.

Testcase 3: ((a) (b) (p (a b c d e)) (q (c e)) (c (a b)) (r (a b d)) (d))

1. Goes to (a), adds to CS because it is a fact
2. Goes to (b), adds to CS because it is fact
3. Goes to (p (a b c d e)), but does not add to CS because not all body is in CS.
4. Goes to (q (c e)), but does not add to CS because not all body is in CS.
5. Goes to (c (a b)), adds it to conclusion set because the body is already in the conclusion set and the head is not.
6. Goes to (r (a b d)) but does not add to CS because not all body is in CS.
7. Goes to (d), adds to CS because it is a fact.
8. Back to top of rules.
9. Goes to (p (a b c d e)), but does not add to CS because not all body is in CS.
10. Goes to (q (c e)), but does not add to CS because not all body is in CS.
11. Goes to (r (a b d)), adds it to conclusion set because the body is already in the conclusion set and the head is not.
12. No more atoms can be added to the CS, fail.