

**Announcement:** LISP Project and Extra Credit Project see WWW.

**Reading Assignment:** Read Chapters 10-12 in Nilsson

**Homework Number 8:** Problems 8.1, 8.2, 9.1, 9.3 in Nilsson due Tuesday October 27 in class.

**Homework Number 9:** Problems 10.5, 10.6, 12.1, 12.2 in Nilsson due Tuesday November 3 in class.

**Homework Number 10:** Problems 13.2, 14.1, 14.3, 14.4 and 14.5 in Nilsson due Tuesday November 10 in class.

**Homework Number 11:** Problems 16.1, 16.2, 16.3, 16.4 16.11 in Nilsson due Tu. Nov. 17, 2009

**Homework Number 12:** Due Tuesday November 24, 2009

Computation Deduction.

Using **Resolution Refutation** deduce the following computation to obtain a value for the goal by drawing the Consistent Solution Graph for the goal and prove its consistency. Make sure your graph is clearly marked and it follows a complete strategy.

Facts:

F1: member(X,cons(X,Y)).

F2: subset(nil,Z).

Rules:

R1: member(X2,Y2)  $\rightarrow$  member(X2,cons(U,Y2)).

R2: member(X3,Y3)  $\wedge$  subset(Z3,Y3)  $\rightarrow$  subset(cons(X3,Z3),Y3).

Goal: subset(cons(3,cons(2,nil)),cons(1,cons(2,cons(3,cons(4,nil))))).

{Note: If you prefer, you may use the notation subset([3,2],[1,2,3,4]) or subset((3 2),(1 2 3 4)).}

Draw the graph, show the substitutions are consistent, and obtain the value of the goal.

### **OUTLINE Class #25**

- Sense/Plan/Act Agent Cycle
  1. The sense/plan/act agent paradigm
  2. Example
- Approximate Search
  1. Island-Driven Search
  2. Hierarchical Search
  3. Limited-Horizon Search (Branch-and-Bound)
  4. Search Cycles
  5. Building Reactive Procedures