

## EXPERT SYSTEM PRACTICE PROBLEM

Consider the following expert system rules:

1. If expensive wine is indicated  
and it is New Year's Eve  
then serve champagne.
2. If wine is indicated  
and entree is steak  
then serve red wine.
3. If cheap wine is indicated  
and entree is chicken  
and you don't like the guest  
then serve apple cider.
4. If cheap wine is indicated  
then serve white Zinfandel.
5. If beer is indicated  
and entree is Mexican  
then serve Dos Equis.
6. If beer is indicated  
serve Coors.
7. If wine is indicated  
and you want to impress the guest  
then expensive wine is indicated.
8. If wine is indicated  
and food is carry-out  
then cheap wine is indicated.
9. If entree is French  
then wine is indicated.
10. If entree is Mexican  
then beer is indicated.
11. If you do not like the guest  
and entree is carry-out food  
then beer is indicated.

- a) Here are some facts:
1. The food is carry-out.
  2. The entree is French.
  3. It is New Year's Eve.
  4. The entree is chicken.

Run the expert system on these facts. If multiple rules fire, choose the first one. Show your reasoning (i.e., how many passes you made and which rule(s) fired on each pass) and your conclusions.

- b) Same as a), but if multiple rules fire, choose the last.
- c) Same as a), but assume the entree is Mexican instead of French, i.e., change fact #2 in a).
- d) Same as c), but if multiple rules fire, choose the last.