Answers to PL3 parts 1-

1a. Deductive database

1b. Unification

2a. Procedural programming has Von Neumann machine architecture, syntax as a sequence of statements, computation, and control; logic and control are mixed. Together. Logic programming has an abstract model and logic formulas, it uses deduction of the clauses and the logic and control can be separated unlike Procedural.

2b. Resolution order control is a deficiency, this meaning the ordering of pattern matching during resolution and cut operator. It uses closed world assumption meaning it only has knowledge of its database and it is a true/fail system rather than true/false. It also has a negation problem meaning prolog not operator is not equivalent to logical not operator.

2c. Higher level language, the computer does more automatically so logic programming is logical to represent the program and let the machine do the deduction or computation automatically.

3. Given the set of clauses S & and goal G,

\*negate the goal G

\*{S} U {¬G}

\* existence of contradiction => derivation of empty clauses

Bases on {S} U {¬G} is inconsistent if {S} U {G} is consistent.

4. A close up of a map

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5.

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6.

Facts:

Vegetable(carrot) carrot is a vegitable

Vegetable(broccoli)

Fruit(Orange)

Fruit(banana)

isOrange(orange)

isOrange(orange)

isOrange(car)

/\* Rules \*/

Food(X, Y) :- hasSeeds(X), noSeeds(Y)

hasSeeds(X) :- fruit(X)

noSeeds(Y) :- vegetable

Goal:

?- food(X, Y), isOrange(X).

?- food(X, Y), hasSeeds(Y).

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