ASSIGNMENT - 1

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**Q1.)** parent(X,Y) = "X is a parent of Y".

1. parent(X, Pat).
2. parent(Liz, X).
3. parent(X, Y), parent(Y, Pat).

X will be assigned as Pat’s grandparent

**Q2.)**

1. happy(X) :- parent(X, \_).
2. hastwochildren(X) :- sister(\_, Y), parent(X, Y).
3. grandchild(X) :- parent(\_, Y), parent(Y, X).
4. aunt(X, Y) :- sister(X, Z), parent(Z, Y).

**Q3.)**

1. father(X,Y) :-

parent(X,Y),

male(X).

1. sister(X,Y) :-

parent(Z, X),

parent(Z, Y),

female(X), X \= Y.

1. grandmother(X, Y) :-

female(X),

parent(X, Z), parent(Z, Y).

1. cousin(X, Y) :-

X \= Y,

parent(Z, X),

parent(W, Y),

Z \= W,

parent(V, Z),

parent(V, W).

**Q4.)**

sameRank(aardvark, flume) :- soldier(aardvark, X), soldier(flume, X).

**Q5.)**

ancestor(X,Y) :- parent(X, Y). (Base Case)

ancestor(X,Y) :- parent(X, Z), ancestor(Z, Y).