parent(david, ethan).

parent(david, ellen).

parent(david, eric).

parent(ellen, frank).

parent(eric, fine).

parent(frank, grace).

parent(frank, green).

parent(fine, glen).

parent(green, henry).

parent(peter, queen).

parent(queen, rose).

parent(grace, hellen).

parent(queen, rori).

ancestor(X, Y):-

parent(X,Y).

ancestor(X,Y):-

parent(X,Z),

ancestor(Z,Y).

descendent(X, Y) :-

parent(Y, X).

descendent(X, Y) :-

parent(Y, Z),

descendent(X, Z).

descendent2(X, Y) :-

ancestor(Y, X).

husband(henry, rose).

male(david).

male(frank).

male(fine).

male(henry).

male(glen).

male(eric).

male(ethan).

male(peter).

female(grace).

female(hellen).

female(green).

female(queen).

female(rose).

female(rori).

female(ellen).

%This is for the Girls side

motherinlaw1(X, Y) :-

husband(Y, Z),

parent(X, Z),

female(X).

%This is for the Guys Side

motherinlaw2(X, Y) :-

husband(Z, Y),

parent(X, Z),

female(X).

sister(X, Y) :-

parent(Z, X),

parent(Z, Y),

female(X),

X \= Y.

sibling(X, Y) :-

parent(Z, X),

parent(Z, Y),

X \= Y.

nephew(X, Y) :-

parent(Z, X),

sibling(Z, Y),

male(X).

RESULTS

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?- ancestor(ellen,Y).

Y = frank ;

Y = grace ;

Y = green ;

Y = hellen ;

Y = henry ;

false.

?- descendent(henry, Y).

Y = green ;

Y = david ;

Y = ellen ;

Y = frank ;

false.

?- descendent2(hellen, Y).

Y = grace ;

Y = david ;

Y = ellen ;

Y = frank ;

false.

?- motherninlaw1(X,Y).

Correct to: "motherinlaw1(X,Y)"? yes

X = queen,

Y = henry.

?- motherinlaw2(X,Y).

X = green,

Y = rose.

?- sister(X,Y).

X = ellen,

Y = ethan ;

X = ellen,

Y = eric ;

X = grace,

Y = green ;

X = green,

Y = grace ;

X = rose,

Y = rori ;

X = rori,

Y = rose ;

false.

?- nephew(X,Y).

X = frank,

Y = ethan ;

X = frank,

Y = eric ;

X = fine,

Y = ethan ;

X = fine,

Y = ellen ;

X = henry,

Y = grace ;

false.

?-