% Facts: parent(Parent, Child)

parent(john, mary).

parent(john, james).

parent(mary, lucy).

parent(mary, sophia).

parent(james, oliver).

parent(lucy, emily).

parent(sophia, jack).

% Rule: mother(Mother, Child) :- parent(Mother, Child) and Mother is female.

mother(mary, lucy).

mother(mary, sophia).

mother(lucy, emily).

mother(sophia, jack).

% Rule: father(Father, Child) :- parent(Father, Child) and Father is male.

father(john, mary).

father(john, james).

father(james, oliver).

father(lucy, emily).

father(sophia, jack).

% Rule: sibling(Sibling1, Sibling2) :- they share at least one parent.

sibling(X, Y) :-

parent(P, X),

parent(P, Y),

X \= Y.

% Rule: grandparent(Grandparent, Grandchild) :- Grandparent is parent of Parent, and Parent is parent of Grandchild.

grandparent(GP, GC) :-

parent(GP, P),

parent(P, GC).

% Rule: ancestor(Ancestor, Descendant) :- Ancestor is a parent of Descendant or Ancestor is an ancestor of Descendant.

ancestor(A, D) :-

parent(A, D).

ancestor(A, D) :-

parent(A, P),

ancestor(P, D).

**Output:**

prolog

CopyEdit

Sibling = sophia ;

Sibling = james ;

Sibling = mary.