% Figure 1.8 The family program.

parent( pam, bob).

parent( tom, bob).

parent( tom, liz).

parent( bob, ann).

parent( bob, pat).

parent( pat, jim).

female( pam).

female( liz).

female( ann).

female( pat).

male( tom).

male( bob).

male( jim).

offspring( Y, X) :-

parent( X, Y).

mother( X, Y) :-

parent( X, Y),

female( X).

grandparent( X, Z) :-

parent( X, Y),

parent( Y, Z).

sister( X, Y) :-

parent( Z, X),

parent( Z, Y),

female( X),

X \= Y.

predecessor( X, Z) :- % Rule pr1

parent( X, Z).

predecessor( X, Z) :- % Rule pr2

parent( X, Y),

predecessor( Y, Z).