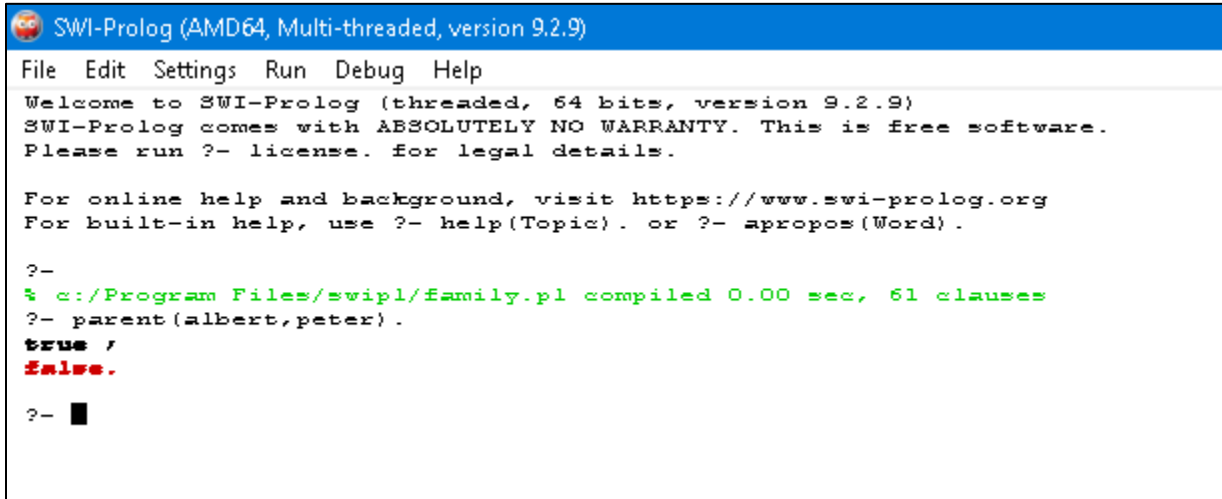


1. Ask Prolog if Albert is the parent of Peter by entering the query.

Execute:



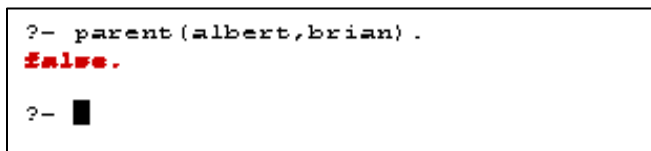
```
SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
Welcome to SWI-Prolog (threaded, 64 bits, version 9.2.9)
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software.
Please run ?- license. for legal details.

For online help and background, visit https://www.swi-prolog.org
For built-in help, use ?- help(Topic). or ?- apropos(Word).

?-
% c:/Program Files/swipl/family.pl compiled 0.00 sec, 61 clauses
?- parent(albert,peter).
true;
false.
?-
```

2. Ask Prolog if Albert is the parent of Brian by entering the query:

Execute:



```
?- parent(albert,brian).
false.
?-
```

3. Ask, "Who are the parents of Brian?":

Execute:

```
SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
Welcome to SWI-Prolog (threaded, 64 bits, version 9.2.9)
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software.
Please run ?- license. for legal details.

For online help and background, visit https://www.swi-prolog.org
For built-in help, use ?- help(Topic). or ?- apropos(Word).

?-
% c:/Program Files/swipl/family.pl compiled 0.02 sec, 61 clauses
?- parent(X,brian).
X = jim ;
X = pat.
?-
```

4. Ask, "Is Irene a grandparent of Brian?" This can be answered by finding out if Irene is the parent of someone who is the parent of Brian.

Execute:

```
SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help

?- grandparent(irene,brian).
true ;
false.
?-
```

5. Find all the grandchildren of Irene

Execute:

```
SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help

?- grandparent(irene,brian) .
true .

?- grandparent(irene,X) .
X = brian ,
X = lee ,
X = sandra ,
X = james ,
X = kate ,
X = kyle .

?-
```

6. Add rule to define grandparent relation.

Execute:

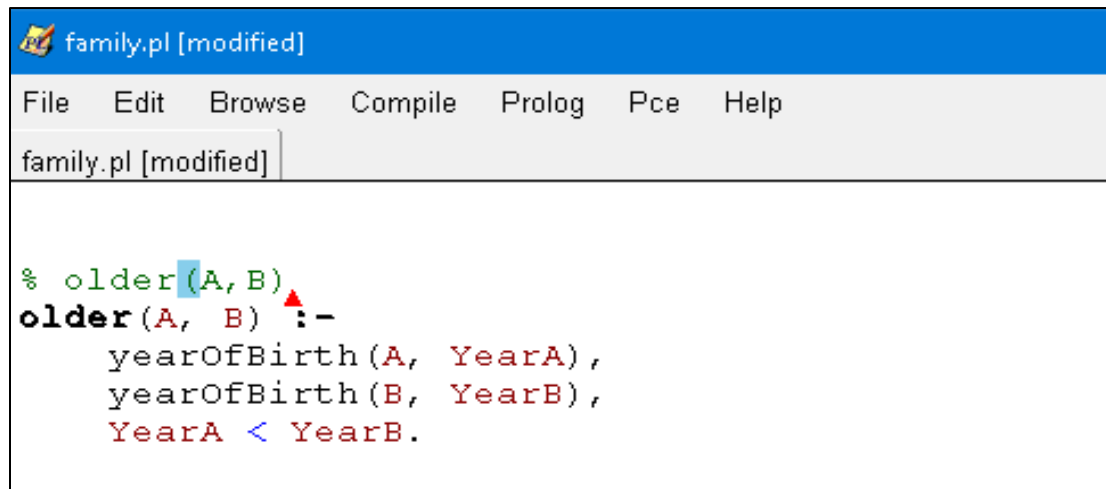
```
family.pl
File Edit Browse Compile Prolog Pce Help
family.pl

% RULES
% _____

grandparent(Grandparent, Grandchild) :-
    parent(Grandparent, Parent),
    parent(Parent, Grandchild).
```

7. Add rule to define who is the older.

Execute:

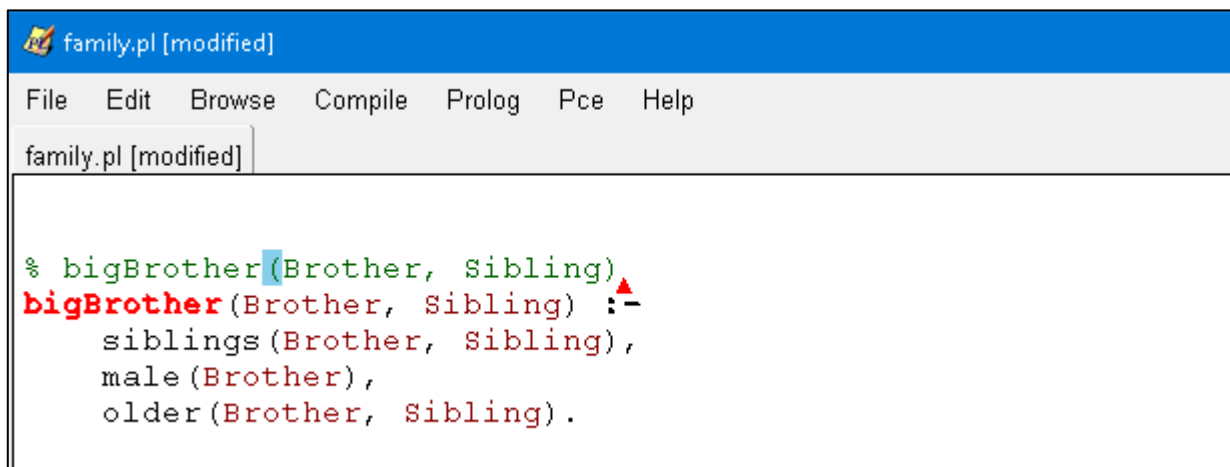


```
family.pl [modified]
File Edit Browse Compile Prolog Pce Help
family.pl [modified]

% older(A,B)
older(A, B) :-
    yearOfBirth(A, YearA),
    yearOfBirth(B, YearB),
    YearA < YearB.
```

8. Using the rules that you are defined in 7, and 6, (siblings, older), define new rule: bigBrother. Hint the big brother should be male.

Execute:



```
family.pl [modified]
File Edit Browse Compile Prolog Pce Help
family.pl [modified]

% bigBrother(Brother, Sibling)
bigBrother(Brother, Sibling) :-
    siblings(Brother, Sibling),
    male(Brother),
    older(Brother, Sibling).
```