Consider the following story.
“I married a widow (call her W) who has a grown-up daughter (D). My father (F), who visited us quite often, fell in love with my step-daughter and married her. Hence my father became my son-in-law and my step-daughter became my mother. Some months later, my wife gave birth to a son (S1), who became the brother-in-law of my father, as well as my uncle. The wife of my father-that is, my step-daughter also had a son (S2).”

- Using Prolog, create a list of facts that represents the situation in the above story.
- Add rules defining the family relationships (such as father-in-law) described in the story.
- Show how a Prolog system would use your program to prove the goal “I am my own grandfather"

```
male(i).
male(f).
male(s1).
male(s2).

female(w).
female(d).

married(i,w).
married(w,i).
married(f,d).
married(d,f).

parent(w,d).
parent(i,d).
parent(f,i).
parent(i,s1).
parent(w,s1).
parent(f,s2).
parent(d,s2).
parent(d,i).

sibling(X,Y) :- parent(Z,X),parent(Z,Y),not(X==Y).
father_in_law(X,Y) :- parent(X,Z),male(X),married(Y,Z).
mother_in_law(X,Y) :- parent(X,Z),female(X),married(Y,Z).
son_in_law(X,Y) :- married(X,Z),parent(Y,Z),male(X).
brother_in_law(X,Y) :- married(Y,Z),sibling(X,Z),male(X).
uncle(X,Y):- parent(Z,Y),sibling(X,Z),male(X).
grandparent(X,Y):- parent(X,Z),parent(Z,Y).
```

QUESTIONS:

```
?- brother_in_law(s1, X).
X = f ;
X = f .
```

```
?- uncle(X, i).
X = s1 ;
X = s1 .
```

```
?- son_in_law(X, i).
X = f .
```

```
?- parent(X, i).
X = f ;
X = d.
```

```
?- grandparent(X, i),male(X).
X = i .
```