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**Batch No : B2**

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**Problem Statement : Implement a Small Expert System in Prolog**

**Code:**

male(saif).

male(sharukh).

male(akshay).

male(amir).

female(kareena).

female(gauri).

female(twinkle).

female(kiran).

female(sharmila).

parent(sara,saif).

parent(sara,kareena).

parent(taimur,saif).

parent(taimur,kareena).

parent(saif,sharmila).

parent(aryan,sharukh).

parent(aryan,gauri).

parent(tara,akshay).

parent(tara,twinkle).

parent(ira,amir).

parent(ira,kiran).

child(X,Y):-parent(Y,X).

father(X,Y):-parent(Y,X),male(X).

mother(X,Y):-parent(Y,X),female(X).

cousin(X,Y):-parent(X,Z),parent(Y,Z).

spouse(X,Y):-parent(Z,X),parent(Z,Y).

grandparent(X,Y):-parent(Z,X),parent(Y,Z).

## Output:

```
% c:/Users/nupur/Documents/Prolog/famtmprol.pl compiled 0.00 sec, 26 clauses
?- child(amir,X).
X = ira.

?- father(taimur,X).
false.

?- father(X,taimur).
X = saif ,

?- father(saif,X).
X = sara ;
X = taimur.

?- cousin(sara,X).
X = sara ;
X = taimur ;
X = sara ;
X = taimur.

?- spouse(X,kareena).
X = saif ,

?- grandparent(X,sara).
X = sharmila ,

?- mother(X,tara).
X = twinkle.

?- mother(gauri,X).
X = aryan.

?- spouse(sharukh,X).
X = sharukh ;
X = gauri.

?- child(amir,X).
X = ira.

?- spouse(X,twinkle).
X = akshay ,

?- child(kiran,X).
X = ira.

?-
```