

Experiment No.:

Family Relationship in Prolog

Code:

```
female(pam).  
female(liz).  
female(pat).  
female(ann).  
male(jim).  
male(bob).  
male(tom).  
male(peter).  
parent(pam,bob).  
parent(tom,bob).  
parent(tom,liz).  
parent(bob,ann).  
parent(bob,pat).  
parent(pat,jim).  
parent(bob,peter).  
parent(peter,jim).  
mother(X,Y):- parent(X,Y),female(X).  
father(X,Y):-parent(X,Y),male(X).  
sister(X,Y):-parent(Z,X),parent(Z,Y),female(X),X\==Y.  
brother(X,Y):-parent(Z,X),parent(Z,Y),male(X),X\==Y.  
grandparent(X,Y):-parent(X,Z),parent(Z,Y).  
grandmother(X,Z):-mother(X,Y),parent(Y,Z).  
grandfather(X,Z):-father(X,Y),parent(Y,Z).  
wife(X,Y):-parent(X,Z),parent(Y,Z),female(X),male(Y).  
uncle(X,Z):-brother(X,Y),parent(Y,Z).  
sibling(X,Y):-parent(Z,X),parent(Z,Y).  
aunt(X,Y):-sister(X,Z),parent(Z,Y).  
mother_in_law(X,Y):-parent(X,Z),wife(Y,Z).
```

```
practi-1.pl | pract-0.pl |  
cricketer(rohit).  
cricketer(dhoni).  
footballer(sunil).  
footballer(manvir).  
cricketer(virat).
```

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Output:

```
% c:/Users/nayan/Documents/Btech/3-4 year/7 sem/AI/Lab/Practicals/Pract-0.pl compiled 0.00 sec, -1 clauses
?- cricketer(rohit).
true.

?- footballer(rohit).
false.

% c:/Users/nayan/Documents/Btech/3-4 year/7 sem/AI/Lab/Practicals/practi-1.pl compiled 0.00 sec, 28 clauses
?- female(pam).
true.

?- female(bob).
false.

?- parent(pam,bob).
true.

?- mother(pam, bob).
true.

?- |
|   father(tom, bob).
true.

?- grandparent(tom, pat).
true

?- sibling(peter,pat).
true.

?- sibling(bob,liz).
true.

?- sibling(ann,pat).
true.

[2] ?- uncle(peter,jim).
true
Unknown action: d (h for help)
Action? ,

[2] ?- uncle(peter,jim).
true ,

[2] ?- grandparent(pam,ann).
true.

[2] ?- wife(pam,tom).
true.

[2] ?- parent(X,jim).
X = pat ,

[2] ?- sibling(X,Y).
X = Y, Y = bob ,

[2] ?- aunt(X,Y).
X = liz,
Y = ann ,

[2] ?- mother_in_law(X,Y).
X = bob,
Y = pat ,

[2] ?- wife(X,Y).
X = pam,
Y = tom
```

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