

AI Assignment 5 - Implementation of Predicate Logic using PROLOG

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Code :

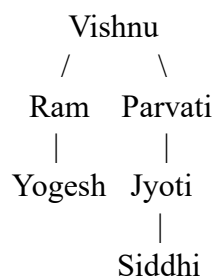
```
% Facts about family relationships
male(vishnu).
male(ram).
male(yogesh).
female(parvati).
female(jyoti).
female(siddhi).
parent(vishnu, ram).
parent(vishnu, parvati).
parent(ram, yogesh).
parent(jyoti, siddhi).
parent(parvati, jyoti).

% Rules
father(X, Y) :- male(X), parent(X, Y).
mother(X, Y) :- female(X), parent(X, Y).
sibling(X, Y) :- parent(Z, X), parent(Z, Y), X \= Y.

grandfather(X, Y) :- father(X, Z), parent(Z, Y).
grandmother(X, Y) :- mother(X, Z), parent(Z, Y).
aunt(X, Y) :- sister(X, Z), parent(Z, Y).
uncle(X, Y) :- brother(X, Z), parent(Z, Y).

sister(X, Y) :- female(X), sibling(X, Y).
brother(X, Y) :- male(X), sibling(X, Y).
cousin(X, Y) :- parent(Z, X), parent(W, Y), sibling(Z, W)
```

Family Tree :



Output :

```
GNU Prolog console
File Edit Terminal Prolog Help
GNU Prolog 1.5.0 (64 bits)
Compiled Jul  8 2021, 12:22:53 with gcc
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compiling C:/Users/siddh/Desktop/familytree.pl for byte code...
C:/Users/siddh/Desktop/familytree.pl compiled, 26 lines read - 4480 bytes written, 20 ms
| ?- cousin(yogesh,jyoti).

true ?

yes
| ?- father(vishnu,X).

X = ram ? ;

X = parvati

yes
| ?- grandmother(parvati,siddhi).

yes
| ?- aunt(parvati,yogesh).

true ?

yes
| ?-
```