ARTIFICIAL INTELLIGENCE

ROLL NO. : 18BCE191
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Aim
Write a program in PROLOG for Query based on the family tree. The knowledge base contains the data of at least three generations.

Code

```
/* FACTS */

parent(sanjay,rajat).
parent(varsha,rajat).
parent(shivaram,sanjay).
parent(kamla,sanjay).
parent(sita,varsha).
parent(kanti,varsha).
parent(sanjay,shreya).
parent(varsha,shreya).
parent(shivaram,sonal).
parent(kamla,sonal).

female(shreya).
female(varsha).
female(kamla).
female(sita).
female(sonal).
male(rajat).
male(sanjay).
male(shivaram).
male(kanti).
```

```
mother(X,Y):-parent(X,Y),female(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.
grandfather(X,Y):-parent(Z,Y),parent(X,Z),male(X).
grandmother(X,Y):-parent(Z,Y),parent(X,Z),female(X).
aunt(X,Y):-parent(Z,Y),brother(Z,X),female(X).
father(X,Y):-parent(X,Y),male(X).
```

Output

```
(base) rajat@rajat-VivoBook-S14-X430UA:/Rajat1/Books/Artificial Intelligence/Practicals$ swipl
Welcome to SWI-Prolog (threaded, 64 bits, version 7.6.4)
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software.
Please run ?- license. for legal details.

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

?- compile('prolog1.pl').
true.

?- parent(sanjay,rajat).
true .

?- parent(varsha,rajat).
true .

?- sister(shreya,rajat).
true .

?- grandfather(shivaram,rajat).
true .

?- grandmother(shreya,kamla).
false.

?- grandmother(kamla,shreya).
true .

?- aunt(sonal,rajat).
true .
```