EX NO: 12

DATE :

PROLOG

AIM

To develop a family tree program using PROLOG with all possible facts, rules and queries.

PROGRAM:

```
male(Peter)
male(john)
male(chris)
male(kevin)
female(betty)
female(jeny)
female(lisa)
female(helen)
parentof(chris, peter)
parentof(chris, betty)
parentof(helen, peter)
parentof(helen, betty)
parentOf(kevin, chris)
parentOf(kevin, lisa)
parentOf(jeny, john)
parentOf(jeny, helen)
```

```
father(X, Y) :- male(Y),
parentof(X, Y).
mother(X, Y) :- female(Y),
parentof(X, Y).
grandfather(X,Y) :- male(Y),
parentof(X, Z),
parentof(Z, Y).
grandmother(X,Y) :- female(Y),
parentof(X, Z),
parentof(Z, Y).
brother(X,Y) :- male(Y),
father(X,Z),
father(Y, W),
Z == W.
sister(X, Y) :- female(Y),
father(X, Z),
father(Y, W),
Z == W.
```

OUTPUT :

male(Peter) - true

father(chris.peter) - true

father(chris.betty) - false

grandfather(kevin.peter) - true

grandfather(jeny.peter) - true

grandmother(jerry.peter) - false

mother(chris, X) - X = betty

brother(helen, chris) - true

brother(chris, helen) - false

father(X, Y)

X = chris, Y = peter

X = helen, Y = peter

X = jerry, Y = John

X = kevin, Y = chris

mother(X, Y)

X = chris, Y = betty

X = helen, Y = betty

X = kevin, Y = lisa

X = jerry, Y = helen

grandmother (X, Y)

X = kevin, Y = betty

X = jeny, Y = betty

grandfather (X, Y)

X = kevin, Y = peter

X = jerry, Y = peter

brother (X, Y)

X = Y, Y = chris

X = helen

Y = chris

X = Y, Y = kevin

sister (X, Y)

X = Y, Y = jeny

X = chris

Y = helen

X = Y, Y = helen.

RESULT :

A family tree program using prolog with all possible facts, rules and queries are successfully developed.