Experiment 8

AIM - Implementing Family tree using prolog.

Knowledge Base -

```
parent(shantaram, siddhartha).
parent(vijaya,siddhartha).
parent(shantaram,joshna).
parent(vijaya,joshna).
parent(manohar,suvarna).
parent(geeta,suvarna).
parent(manohar,satish).
parent(geeta, satish).
parent(joshna,vedika).
parent(satish,taniket).
parent(siddhartha,niyati).
parent(suvarna,niyati).
parent(siddhartha,siya).
parent(suvarna, siya).
female(vijaya).
female(geeta).
female(joshna).
female(suvarna).
female(vedika).
female(niyati).
female(siya).
mother(X,Y) := parent(X,Y), female(X).
grandMother(X,Y) :- parent(X,Z), parent(Z,Y).
sister(X,Y) := parent(Z,X), parent(Z,Y), female(X), X == Y.
aunt(X,Y) := female(X), parent(Z,Y), sister(X,Z).
```

Screenshots -

```
avant.pl
File Edit Browse Compile Prolog Pce Help
                                                                                                                                         savant.pl
parent (shantaram, siddhartha) .
parent(vijaya, siddhartha).
parent(shantaram, joshna).
parent (vijaya, joshna) .
                                                  SWI-Prolog (AMD64, Multi-threaded, version 9.2.2)
                                                 File Edit Settings Run Debug Help
Welcome to SWI-Prolog (threaded, 64 bits, version 9.2.2)
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software.
Please run ?- license. for legal details.
parent (manohar, suvarna) .
parent (geeta, suvarna) .
parent (manohar, satish) .
parent (geeta, satish) .
parent (joshna, vedika).
                                                  For online help and background, visit https://www.swi-prolog.org
For built-in help, use ?- help(Topic). or ?- apropos(Word).
parent (satish, taniket) .
parent (siddhartha, niyati) .
                                                  :-
& d:/swipl/demo/savant.pl compiled 0.00 sec, 25 clauses
parent (suvarna, niyati).
parent(siddhartha, siya).
parent(suvarna, siya).
 female(vijaya).
female(geeta).
female(joshna).
female (suvarna) .
female (vedika).
female (niyati) .
female (siya).
mother(X,Y) :- parent(X,Y), female(X).
grandMother(X,Y) :- parent(X,Z), parent(Z,Y).
sister(X,Y) :- parent(Z,X), parent(Z,Y), female(X), X\==Y.
aunt(X,Y) :- female(X), parent(Z,Y), sister(X,Z).
user:aunt/2: (loaded) 1 clause
                                                                                                                                     Line: 28
```

```
SWI-Prolog (AMD64, Multi-threaded, version 9.2.2)
File Edit Settings Run Debug Help
Welcome to SWI-Prolog (threaded, 64 bits, version 9.2.2) SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software. Please run ?- license. for legal details.
For online help and background, visit https://www.swi-prolog.org For built-in help, use ?- help(Topic). or ?- apropos(Word).
\stackrel{?}{\times} d:/swipl/demo/savant.pl compiled 0.00 sec, 25 clauses ?- .
ERROR: Stream user_input:9:1 Syntam error: Unempected end of clause
?- parent(suvarna,siya).
true.
?- parent(satish,niyati).
false.
?- female(X).
X = vijaya ;
X = geeta ;
X = joshna ;
X = suvarna;
X = vedika ;
X = niyati
X = siya.
?- aunt(joshna,niyati).
?- aunt(suvarna, taniket)
?- mother(joshna, vedika).
true.
```

Niyati_Savant_TE_C31_2103156

```
SWI-Prolog (AMD64, Multi-threaded, version 9.2.2)
File Edit Settings Run Debug Help
true .
?- mother(joshna, vedika).
true.
?- grandmother(geeta,vedika).
Correct to: "grandMother(geeta,vedika)"? yes
?- grandMother(geeta,niyati).
?- sister(siya,niyati).
true .
?- sister(siya, vedika).
false.
?- parent(suvarna, X).
X = niyati ;
X = siya.
?- aunt(suvarna, X).
X = taniket;
X = taniket;
?- mother(joshna, vijaya)
false.
?- mother(vijaya, joshna).
true.
?-
```