**ASSIGNMENT 4. : PROLOG FAMILY TREE**

**ROLL NO. 50**

/\* Facts \*/

male(sanil).

male(nikhil).

male(ravindra).

male(rugved).

male(vedant).

male(kiran).

female(sarika).

female(pallavi).

female(manjari).

parent\_of(nikhil,sanil).

parent\_of(sarika,sanil).

parent\_of(ravindra, nikhil).

parent\_of(pallavi, nikhil).

parent\_of(kiran,rugved).

parent\_of(manjari, rugved).

parent\_of(kiran, vedant).

parent\_of(manjari, vedant).

parent\_of(ravindra, manjari).

parent\_of(pallavi, manjari).

/\* Rules \*/

father\_of(X,Y):- male(X),

parent\_of(X,Y).

mother\_of(X,Y):- female(X),

parent\_of(X,Y).

grandfather\_of(X,Y):- male(X),

parent\_of(X,Z),

parent\_of(Z,Y).

grandmother\_of(X,Y):- female(X),

parent\_of(X,Z),

parent\_of(Z,Y).

sister\_of(X,Y):- %(X,Y or Y,X)%

female(X),

father\_of(Father, Y), father\_of(Father,X),X \= Y.

sister\_of(X,Y):- female(X),

mother\_of(Mother, Y), mother\_of(Mother,X),X \= Y.

aunt\_of(X,Y):- female(X),

parent\_of(Z,Y), sister\_of(X,Z),X \= Y.

brother\_of(X,Y):- %(X,Y or Y,X)%

male(X),

father\_of(F, Y), father\_of(F,X),X \= Y.

brother\_of(X,Y):- male(X),

mother\_of(M, Y), mother\_of(M,X),X \= Y.

uncle\_of(X,Y):-

parent\_of(Z,Y), brother\_of(Z,X).

ancestor\_of(X,Y):- parent\_of(X,Y).

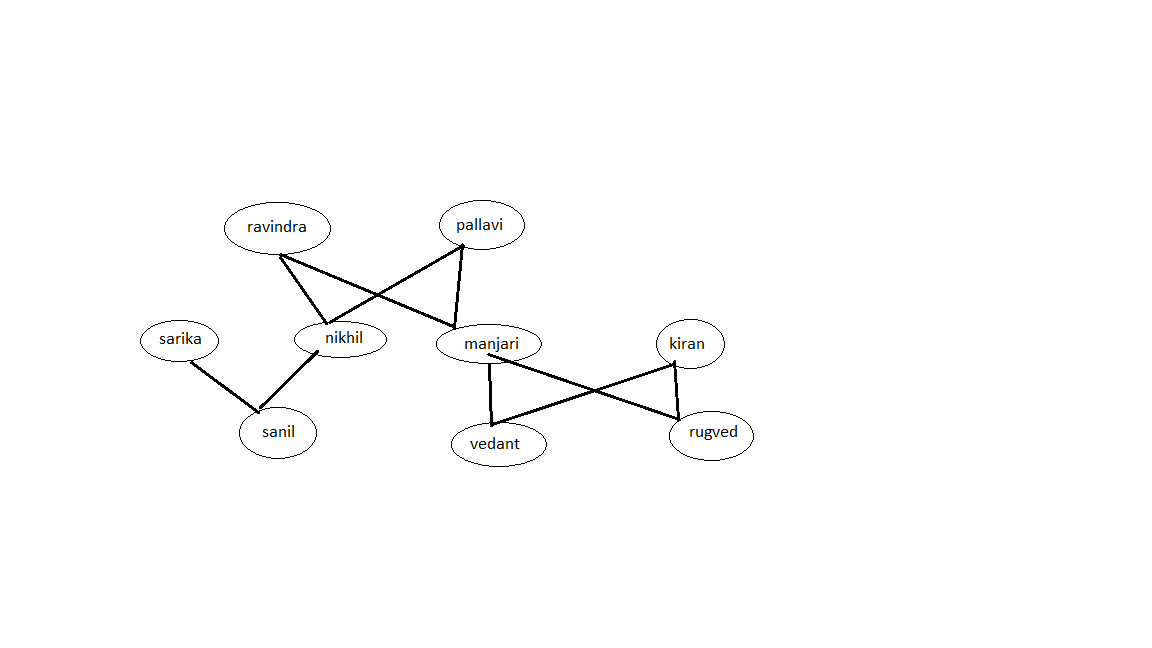
ancestor\_of(X,Y):- parent\_of(X,Z),

ancestor\_of(Z,Y).

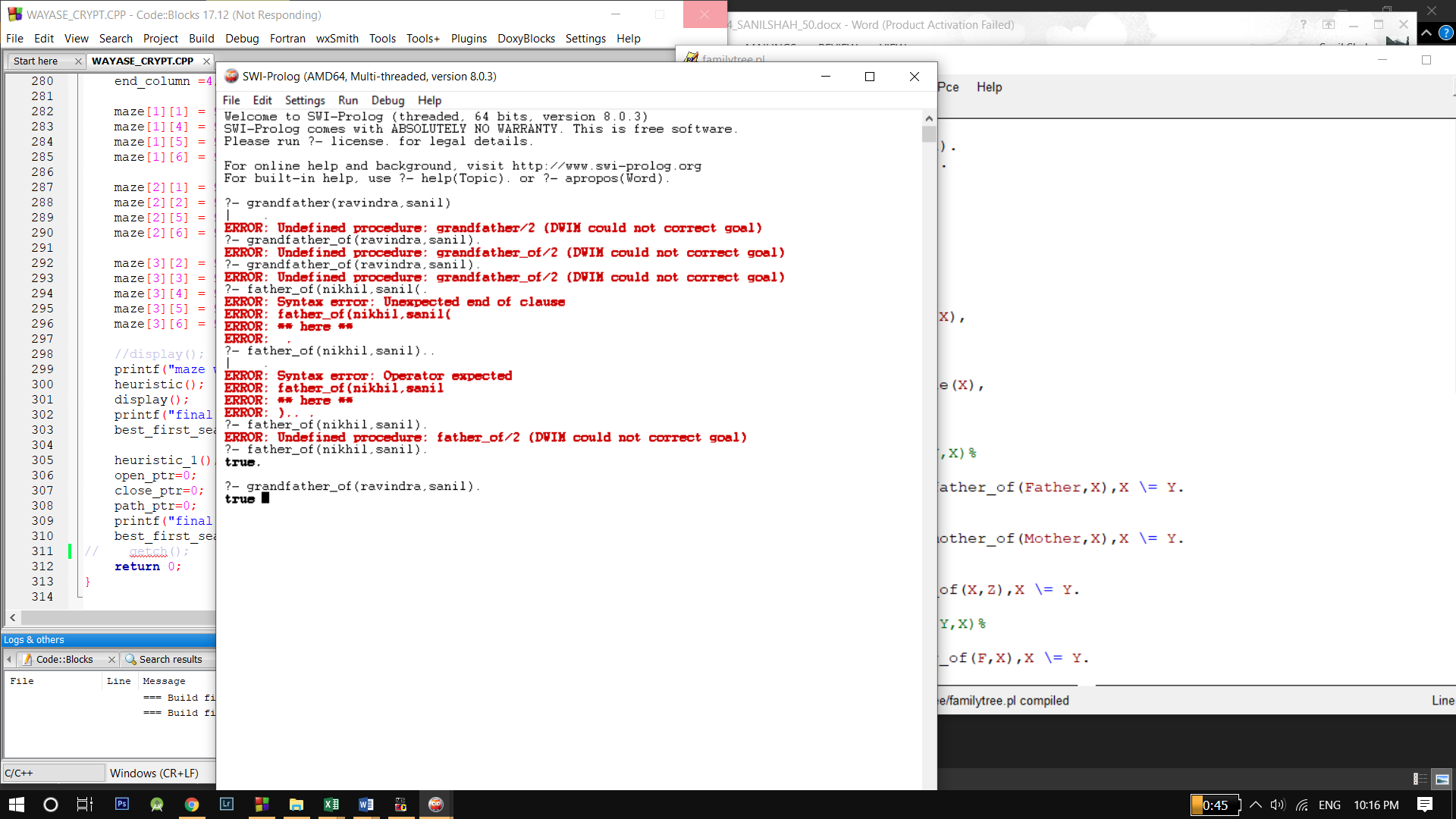
husband\_of(X,Y) :- male(X),

father\_of(X,Child), mother\_of(Y,Child).

**TREE FOR REFERENCE:**



**OUTPUT QUERY:**



**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**