**AI Experiment 1**

**Code**

female(swara).

female(monisha).

female(aditi).

female(preesha).

female(nikhili).

female(kinari).

female(teena).

female(bhagyashri).

female(mrunal).

female(madhura).

male(nuren).

male(dyotak).

male(yash).

male(dhruv).

male(mandar).

male(mayur).

male(nishant).

male(pranav).

male(nandan).

male(mukund).

parent(mandar,dyotak).

parent(nikhili,dyotak).

parent(mandar,nuren).

parent(nikhili,nuren).

parent(kinari,yash).

parent(pranav,yash).

parent(kinari,swara).

parent(pranav,swara).

parent(nishant,monisha).

parent(tina,monisha).

parent(nishant,preesha).

parent(teena,preesha).

parent(mayur,dhruv).

parent(bhagyashri,dhruv).

parent(mayur,aditi).

parent(bhagyashri,aditi).

parent(mukund,mandar).

parent(madhura,mandar).

parent(mukund,mayur).

parent(madhura,mayur).

parent(nandan,nikhili).

parent(mrunal,nikhili).

parent(nandan,nishant).

parent(mrunal,nishant).

parent(nandan,kinari).

parent(mrunal,kinari).

mother(X,Y):- parent(X,Y),female(X).

daughter(Y,X):- parent(X,Y),female(Y).

father(X,Y):-parent(X,Y),male(X).

son(Y,X):-parent(X,Y),male(Y).

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.

grandparent(X,Y):-parent(X,Z),parent(Z,Y).

grandmother(X,Z):-mother(X,Y),parent(Y,Z).

grandfather(X,Z):-father(X,Y),parent(Y,Z).

wife(X,Y):-parent(X,Z),parent(Y,Z),female(X),male(Y).

kaka(X,Z):-brother(X,Y),father(Y,Z).

mama(X,Z):-brother(X,Y),mother(Y,Z).

kaki(X,Z):-wife(X,Y),kaka(Y,Z).

mami(X,Z):-wife(X,Y),mama(Y,Z).

**Output**

1 ?- [family].

true.

2 ?- son(dyotak,nikhili).

true.

3 ?- brother(mandar,mayur).

true.

4 ?- grandfather(nandan,preesha).

true.

5 ?- grandfather(mukund,yash).

false.

6 ?- grandfather(mukund,dhruv).

True.

7 ?- brother(nuren,dhruv).

false.

8 ?- brother(nuren,dyotak).

true