Name: Riya Loya

Class: CS-D

Roll No.: 01

PRN: 12111145

male(parshu).

male(wasudev).

male(shyam).

male(ram).

male(pankaj).

male(manish).

male(nilesh).

male(deep).

male(kush).

male(punit).

male(devansh).

male(ansh).

male(rahul).

male(roshan).

male(pravin).

male(shlok).

male(raj).

male(ayush).

male(jagdish).

male(pradip).

male(hitesh).

male(neeraj).

male(suyog).

female(smita).

female(pramila).

female(radha).

female(meera).

female(shilpa).

female(preeti).

female(sheetal).

female(riya).

female(ruchi).

female(usha).

female(chanchal).

female(sayli).

female(sunita).

female(anchal).

female(shreya).

female(sangita).

female(mini).

% Parent-child relationships

parent(parshu, wasudev).

parent(parshu, shyam).

parent(parshu, ram).

parent(smita, wasudev).

parent(smita, shyam).

parent(smita, ram).

parent(wasudev, pankaj).

parent(wasudev, preeti).

parent(wasudev, nilesh).

parent(pramila, pankaj).

parent(pramila, preeti).

parent(pramila, nilesh).

parent(pankaj, deep).

parent(pankaj, riya).

parent(shilpa, deep).

parent(shilpa, riya).

parent(preeti, kush).

parent(preeti, punit).

parent(manish, kush).

parent(manish, punit).

parent(nilesh, devansh).

parent(nilesh, ansh).

parent(sheetal, devansh).

parent(sheetal, ansh).

parent(radha, rahul).

parent(radha, usha).

parent(radha, chanchal).

parent(shyam, rahul).

parent(shyam, usha).

parent(shyam, chanchal).

parent(rahul, shlok).

parent(ruchi, shlok).

parent(usha, raj).

parent(usha, ayush).

parent(roshan, raj).

parent(roshan, ayush).

parent(chanchal, sayli).

parent(pravin, sayli).

parent(ram, jagdish).

parent(ram, pradip).

parent(meera, jagdish).

parent(meera, pradip).

parent(jagdish, hitesh).

parent(jagdish,shreya).

parent(sunita,hitesh).

parent(sunita,shreya).

parent(pradip,mini).

parent(pradip,suyog).

parent(sangita,mini).

parent(sangita,suyog).

% Marriage relationships

married(parshu, smita).

married(wasudev,pramila).

married(shyam, radha).

married(ram, meera).

married(pankaj,shilpa).

married(manish,preeti).

married(nilesh,sheetal).

married(rahul,ruchi).

married(roshan,usha).

married(pravin,chanchal).

married(jagdish,sunita).

married(pradip,sangita).

married(hitesh,anchal).

married(neeraj,shreya).

brother(X,Y):- male(X),parent(Z,X),parent(Z,Y),X\=Y.

sister(X,Y):- female(X),parent(Z,X),parent(Z,Y),X\=Y.

husband(X,Y):- male(X),female(Y),married(X,Y).

wife(X,Y):- female(X),male(Y),married(Y,X).

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

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

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

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

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

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

cousin(X,Y):- parent(P,X),parent(Q,Y),parent(Z,P),parent(Z,Q),P\=Q,X\=Y.

daughter\_in\_law(X, Y) :- female(X),married(Z,X),parent(Y, Z).

son\_in\_law(X,Y):- male(X),married(X,Z),parent(Y,Z).

maternaluncle\_mama(X,Y):- parent(Z,Y),parent(P,Z),parent(P,X),male(X),female(Z).

maternalaunt(X,Y):- married(Z,X),maternaluncle(Z,Y).

uncle(X,Y):- parent(Z,Y),parent(P,Z),parent(P,X),Z\=X,male(X).

aunt(X,Y):- female(X),parent(Z,Y),married(P,X),parent(Q,Z),parent(Q,P),Z\=P,male(Z).

second\_uncle(X,Y):- male(X),father(D,Y),father(Z,D),father(S,X),brother(S,Z),Z\=S.

second\_aunt(X,Y):- female(X),father(D,Y),father(Z,D),husband(R,X),father(T,R),brother(T,Z).

second\_maternal\_uncle(X,Y):- male(X),mother(D,Y),father(Z,D),father(S,X),brother(S,Z),Z\=S.

second\_maternal\_aunt(X,Y):- female(X),mother(D,Y),father(Z,D),husband(R,X),father(T,R),brother(T,Z).

aunt\_masi(X,Y):-sister(X,Z),mother(Z,Y).

second\_cousin(X, Y) :- grandfather(W, Y), brother(W, Z), grandfather(Z, X).

great\_grandfather(X, Z) :- father(X, Y), grandfather(Y, Z).

great\_grandmother(X, Z) :- mother(X, Y), grandfather(Y, Z).

grandson(X, Y) :- male(X), grandmother(Y, X).

grandson\_2(X, Y) :- male(X), grandfather(Y, X).

granddaughter(X,Y):-female(X), grandmother(Y,X).

granddaughter\_2(X,Y):-female(X), grandfather(Y,X).

second\_grandmother(X, Y) :- second\_uncle(W, Y), mother(X, W).

second\_grandfather(X, Y) :- second\_uncle(W, Y), father(X, W).

sister\_in\_law(X,Y):-married(Z,Y),brother(Z,X).

second\_sister\_in\_law(X,Y):- married(Z,Y),cousin(Z,X).

brother\_in\_law(X,Y):-married(X,Z),brother(Y,Z).

brother\_in\_law\_2(X,Y):- married(X,Z),married(Y,W),sister(Z,W).

sisterinlaw\_bhabhi1(X,Y):-husband(Z,X),parent(W,Z),parent(W,Y).

atya(X,Y):-parent(W, Y),sister(X, W).