Department of Computer Science and Engineering

21st Batch

Lab Report 2

Course Code: CSE 414

Course Title: Artificial Intelligence Lab

Submitted By	Submitted To
Name : Md. Mahfujur Rahman ID : 192311014 Section : A Semester : 10th Batch : 21st	Name : Salma Akter Lima Designation : Lecturer (Provisional) Varendra University, Rajshahi.

Problem: Creating the family tree with prolog. And determining

1. Father
2. Mother
3. Grandfather
4. Grandmother
5. Sister
6. Brother
7. Aunty
8. Uncle
9. Cousin
10. Predecessor

Theory: Here we will try to use Fact and Rules to define the family-tree then use queries to see if we are getting all the expected result. If we depict the graph of the family tree:

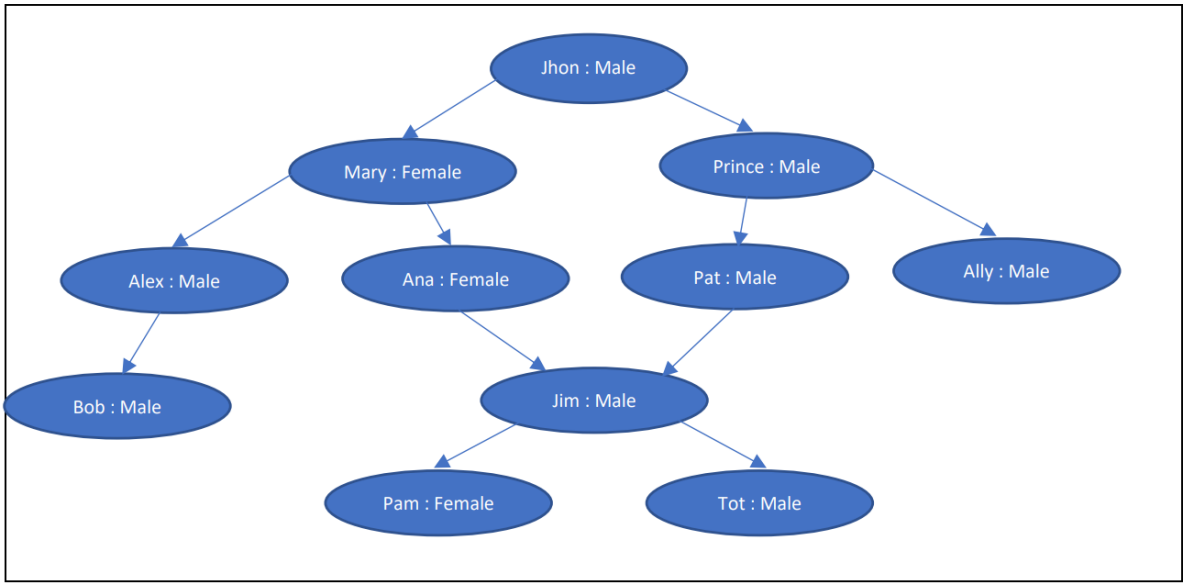

Diagram: Illustration of the family tree of jhon.

Code:

```
male(jhon).
male(prince).
male(ally).
male(pat).
male(alex).
male(bob).
male(jim).
male(tot).

female(mary).
female(ana).
female(ally).
female(pam).

parent(jhon,mary).
parent(jhon,prince).
parent(mary,alex).
parent(mary,ana).
parent(prince,pat).
parent(prince,ally).
parent(alex,bob).
parent(ana,jim).
parent(pat,jim).
parent(jim,pam).
parent(jim,tot).

mother(X,Y):-female(X),parent(X,Y).
father(X,Y):-male(X),parent(X,Y).
grandfather(X,Y):-male(X),parent(X,Z),parent(Z,Y).
grandmother(X,Y):-female(X),parent(X,Z),parent(Z,Y).
sister(X,Y):- X\=Y,female(X),parent(Z,X),parent(Z,Y).
brother(X,Y):- X\=Y,male(X),parent(Z,X),parent(Z,Y).
uncle(X,Y):-male(X),parent(Z,Y),brother(X,Z).
aunt(X,Y):-female(X),parent(Z,Y),sister(X,Z).
cousine(W,X):-parent(Y,W),parent(Z,X),brother(Y,Z).
cousine(W,X):-parent(Y,W),parent(Z,X),sister(Y,Z).
predecessor(X,Y):-parent(X,Y).
predecessor(X,Y):-parent(X,Z),predecessor(Z,Y).

cls:- write('\33\[2J').
```

Output:

Conclusion: From the family-tree graph we feed information to the system and based on the information the system gives us the required output or result. we have tried to extract the required 10 questions and got the required results.