

Jaypee Institute of Information Technology
Lab Sheet-10 (C372.2)

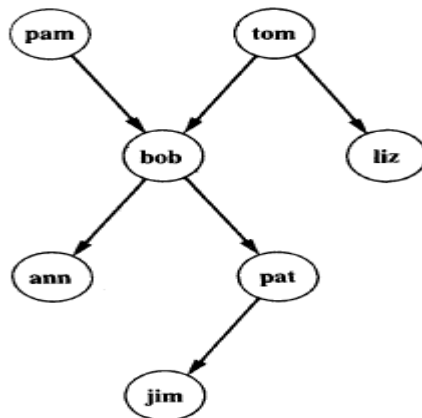
ODD Semester 2019
Course Artificial Intelligence Lab

B.Tech CSE/IT 5th Semester
Course Code 15B17CI574

Instructions:

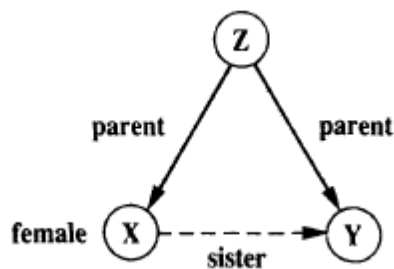
- All students are required to wear uniform else no attendance will be given plus minus 5 marks in disciplinary grade for not wearing uniform.
- Students have to do a mini project apart from the Lab Assignments.
- The evaluative lab assignments must be evaluated as per the given deadline. The total weightage of all day to day work is 60 Marks.
- There will be two lab tests of **20 marks each**. In case a student, who is absent in Lab Test 2 will be considered as Fail in the lab course.
- All students are required to attend at least **80%** labs. 15 marks are reserved for attendance. The evaluative lab assignments must be evaluated as per the given deadline from time to time.

1. Translate the following statements in to prolog rules:
 - (a) Everybody who has a child is happy (introduce a one-argument relation **happy**).
 - (b) For all X, if X has a child who has a sister then X has two children (introduce new relation **hastwochildren**).
2. Assuming the parent relations defined in this section(see Figure),



what will be Prolog's answers to the following questions?

- (a) parent(jim, X).
 - (b) parent(X, jim).
 - (c) parent(pam, X), parent(X, pat).
 - (d) parent(pam, X), parent(X, Y), parent(Y, jim).
3. Define the relation aunt(X, Y) in terms of the relations parent and sister.
As an aid you can first draw a diagram in the style of Figure for the Aunt relation.



Write down PROLOG programming of **A Sorted Tree Dictionary (Page No 146)**.

Write down PROLOG programming of **Searching Maze (Page No 149)**.

Write down PROLOG programming of **The Tower of Hanoi (Page No 152)**.

Try to understand the remaining examples of Chapter 7.

Write a program to implementation of DFS

Write a program to implement BFS

Jaypee Institute of Information Technology
Lab Sheet-10 (C372.2)

ODD Semester 2019
Course Artificial Intelligence Lab

B.Tech CSE/IT 5th Semester
Course Code 15B17CI574

4. Write a program to implement Traveling Salesman Problem
Write a program to implement 8 puzzle problem