

# ARTIFICIAL INTELLIGENCE

## Lab Assignment -2

### Instructions:

1. Assignment must be uploaded in PDF with following naming convention: “AdmNO\_Name\_LabAssig\_1” over Classroom.
2. Prolog Programming language has to be used to solve the questions
3. The source code must be written against each question followed by output screen shot.

### Questions:

**Use following predicates as knowledge base to create a family tree.**

```
parent(motilal,javaharlal).
parent(motilal,vijyalakshmi).
parent(motilal,krishna).
parent(swarupmati,javaharlal).
parent(swarupmati,vijyalakshmi).
parent(swarupmati,krishna).
male(motilal).
female(swarupmati).
male(javaharlal).
female(kamla).
parent(javaharlal,indira).
parent(kamla,indira).
female(indira).
male(firoz).
parent(indira,sanjay).
parent(firoz,sanjay).
parent(indira,rajiv).
parent(firoz,rajiv).
male(sanjay).
female(menka).
parent(sanjay,varun).
parent(menka,varun).
male(rajiv).
female(sonia).
parent(rajiv,rahul).
parent(rajiv,priyanka).
parent(sonia,rahul).
parent(sonia,priyanka).
male(varun).
male(rahul).
female(priyanka).
```

female(vijyalakshmi).  
male(ranjit).  
parent(vijyalakshmi,tara).  
parent(vijyalakshmi,lekha).  
parent(vijyalakshmi,rita).  
parent(ranjit,tara).  
parent(ranjit,lekha).  
parent(ranjit,rita).  
female(tara).  
female(lekha).  
female(rita).  
female(krishna).

1. Identify and remove the errors/suggestions in the given knowledge base.
2. Generate rules of following relations in considering the given knowledge base:
  - a. **grandparent/2.**
  - b. **brother/2.**
  - c. **sister/2.**
  - d. **uncle/2.**
  - e. **aunt/2.**
  - f. **mother/2.**
  - g. **father/2.**
  - h. **wife/2.**
  - i. **child/2.**
  - j. **son/2.**
  - k. **daughter/2.**
3. Answer the following queries
  - a. Find all females in the given tree
  - b. How many grandchild do motilal have?
  - c. Who is/are sister of lekha?
  - d. Who are parents of tara?
  - e. Who are cousins of rajiv?