

**Sardar Vallabhbhai National Institute of Technology, Surat**  
**Computer Science and Engineering Department**  
**B.Tech III - VI Semester**  
**Artificial Intelligence (CS304)**  
**Assignment 2**

1. Implementation of Family tree with using these following facts like male, female, parent, brother, sister.

male(shankar).  
male(ulhas).  
male(satish).  
male(saurabh).  
male(prashant).

cousin and aunt banne baki 6e.

female(umabai).  
female(mrunal).  
female(sadhana).  
female(swati).

parent(shankar,umabai,ulhas).  
parent(shankar,umabai,satish).  
parent(ulhas,mrunal,prashant).  
parent(satish,sadhana,saurabh).  
parent(satish,sadhana,swati).

brother(ulhas,satish).  
brother(satish,ulhas).  
brother(prashant,saurabh).  
brother(saurabh,prashant).  
sister(swati,saurabh).  
sister(swati,prashant).

1. Use the following predicates like:  
father, mother, son, daughter, grandfather, aunt, uncle, cousin, ancestor.
2. Generate rules of following relations in considering the given knowledge base:
  - a. grandparent/2.
  - b. brother/2.
  - c. sister/2.
  - d. mother/2.
  - e. father/2.
  - f. child/2.
  - g. son/2.
  - h. daughter/2.
3. Answer the following queries:
  - a. Find all females in the given tree.
  - b. Find all males in the given tree.

/2 => this is the number of inputs given to it.

- b. How many grandchildren do Shankar has?
- c. Who is/are sister of Prashant?
- d. Who are parents of Swati?