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## Probing Programmers Language

Page No. :

Date :

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Year - B'E.

POA

DOP

Remark Signs.

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Q.1. How does the query in Prolog are executed?

code :-  
:- knowledge base

loves (vincent, mia)  
loves (marcellus, mia)  
loves (pumpkin, honey-bunny)  
loves (honey-bunny, pumpkin)

jealous (x, y) :-  
loves (x, z);  
loves (y, z);

Query - loves (x, mia)

o/p - x = vincent

y = marcellus

Explanation :- Here as we know vincent loves mia as well as marcellus loves mia. Thus the kb assumes that x is either vincent or marcellus.



- Transition model also known as successor function which define which state the system that to move to when a particular action is executed by the agent. Successive application of transition model give rise to what is known as state space.
- Goal test - This act is as a stopping condition when the state passed to this function is goal state.
- Path cost - It is accumulated cost of performing certain sequence of action.

\* Working:-

- i) Navigate to KGCCE workshop from HOP IT cabin with min no. of moves, moves can be climbing stairs
2. 8 puzzle problem
3. The missionaries and cannibals problem
4. N Queens' problem
5. Two room vacuum cleaner world
6. Water Jug problem







d) Find the movies released after 1990

Query: 1 - movie (m, y),  $y > 1990$ ,

output :- m = american beauty

m = bottom - pink

y = 1991

e) Find a director of a movie in which Scarlett Johansson

Query: 2 - address (m; scarlett-johansson), director (m, d)

output d = peter webber

m = girl with a pearl earring

f) Find movies released before 2000

Query: 1 - movie (m, y),  $y < 2000$

output :- m = american beauty

y = 1999

m = anna

y = 1997

m = bottom - pink

y = 1991

d) Find the movies released after 1990

Query: 1 - movie (m, y),  $y < 1990$

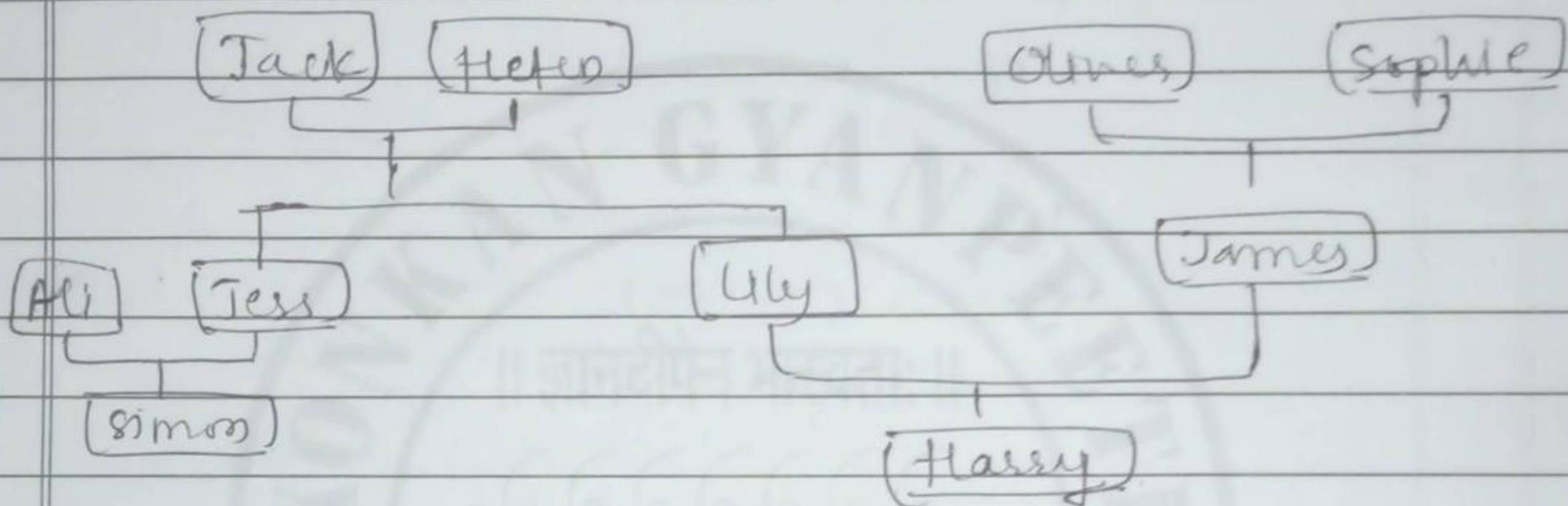
output :- m = american beauty

y = 1999

m = bottom pink



Q5 Draw a family tree of you / any arbitrary family which has the following relations mother, father, daughter, son, grandson, grandmothers, sibling, uncle person, male, female. you need to connect it like kb and write atleast 6 queries and query result on you kb  
Diagram



Family tree.

Query 1: ? - mother of (x, Tess)  
o/p: x = Helen

Query 2: ? parent of (x, Simon)  
o/p: x = Tess

Query 3: ? sister of (x, Lily)  
o/p: x = Tess

Query 5: ? - parent of (x, Harry)  
o/p: x = Lily  
x = James