

ARTIFICIAL INTELLIGENCE (CS304)

LAB ASSIGNMENT 1

Name: Krishna Pandey
Adm no.: U20CS110

Questions:

1. Write the following facts (English Statement) in Prolog.
Now, use these statements as knowledge based for answering the following Queries. Use following facts: i) occupation/2 ii) address/2 iii) salary/2 for knowledge base creation.

1. Marry is a teacher.
2. Mili is a doctor.
3. Bunny is a teacher
4. Gini is a doctor.
5. Marry lives in Surat.
6. Bunny lives in Vadodra.
7. Gini lives in Ahemdabad.
8. Mili lives in Rajkot.
9. Marry earns fortythousand rupees.
10. Mili earns fiftythousand rupees.
11. Bunny earns seventythousand rupees.
12. Gini earns sixtythousand rupees.

Queries:

1. Find all teachers who lives in Surat.
2. Find all doctors who earns sixtythousand rupees.
3. Find all teachers who doesnot live in Ahmedabad.
4. Find all teacher who lives in Rajkot.
5. Find all doctors who lives in Ahmedabad and earns sixtythousand rupees.
6. Find all teachers who lives in Surat or Vadodra.

Code:

```
occupation(marry,teacher).
occupation(milli,doctor).
occupation(bunny,teacher).
occupation(gini,doctor).
address(marry,surat).
address(bunny,vadodra).
address(gini,ahemdabad).
address(mili,rajkot).
salary(marry,forty_thousands_rupees).
salary(mili,fifty_thousands_rupees).
salary(bunny,seventy_thousands_rupees).
salary(gini,sixty_thousands_rupees).
```

```
ques1(X):-occupation(X,teacher),address(X,surat).
ques2(X):-occupation(X,doctor),salary(X,sixty_thousands_rupees).
ques3(X):-occupation(X,teacher),not(address(X,ahemdabad)).
ques4(X):-occupation(X,teacher),address(X,rajkot).
ques5(X):-occupation(X,doctor),address(X,ahemdabad).
ques6(X):-occupation(X,teacher),address(X,surat);address(X,vadodra).
```

Output screenshot:

The screenshot displays the SWISH Prolog IDE interface. The left pane shows the Prolog program with 21 lines of code. The right pane shows the execution results for each query.

Program:

```
1 occupation(marry,teacher).
2 occupation(milli,doctor).
3 occupation(bunny,teacher).
4 occupation(gini,doctor).
5 address(marry,surat).
6 address(bunny,vadodra).
7 address(gini,ahemdabad).
8 address(mili,rajkot).
9 salary(marry,forty_thousands_rupees).
10 salary(mili,fifty_thousands_rupees).
11 salary(bunny,seventy_thousands_rupees).
12 salary(gini,sixty_thousands_rupees).
13
14 ques1(X):-occupation(X,teacher),address(X,surat).
15 ques2(X):-occupation(X,doctor),salary(X,sixty_thousands_rupees).
16 ques3(X):-occupation(X,teacher),not(address(X,ahemdabad)).
17 ques4(X):-occupation(X,teacher),address(X,rajkot).
18 ques5(X):-occupation(X,doctor),address(X,ahemdabad).
19 ques6(X):-occupation(X,teacher),address(X,surat);address(X,vadodra).
20
21
```

Execution Results:

- ques1(X).**
X = marry
false
- ques2(X).**
X = gini
- ques3(X).**
X = marry
X = bunny
- ques4(X).**
false
- ques5(X).**
X = gini
- ques6(X).**
X = marry
X = bunny
- ques6(X).**

The bottom of the interface shows tabs for Examples, History, and Solutions, along with a checkbox for "table results" and a "Run!" button.