

EXPERIMENT NO.: 03

Aim : Implement Problem in PROLOG

Learning Objective : Implement Problems in PROLOG.

Learning Outcome : Students are able to successfully Implement Problems in PROLOG.

Course Outcome

CSL703.4 To realize the basic techniques in PROLOG

Program Outcome

(PO 3) Design/ development of solutions: Breadth and uniqueness of engineering problems i.e. the extent to which problems are original and to which solutions have previously been identified or codified

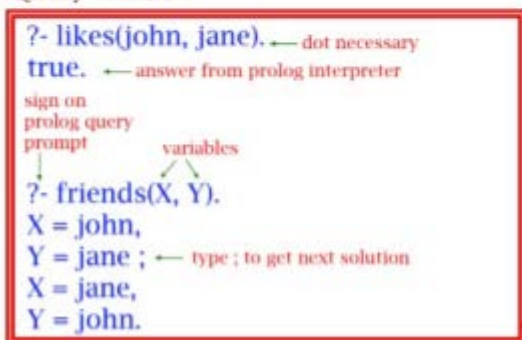
(PO 12) Lifelong Learning

Bloom's Taxonomy Level

- Remembering
- Understanding

Theory:


Prolog is a logic programming language. It has an important role in artificial intelligence. Unlike many other programming languages, Prolog is intended primarily as a declarative programming language. In prolog, logic is expressed as relations (called as Facts and Rules). Core heart of prolog lies at the logic being applied. Formulation or Computation is carried out by running a query over these relations. In prolog, We declare some facts. These facts constitute the Knowledge Base of the system. We can query against the Knowledge Base. We get output as affirmative if our query is already in the knowledge Base or it is implied by Knowledge Base, otherwise we get output as negative.

Algorithm :**Program Window****Query Window**


Output :

1) Friends

```
1 likes(john,jane).
2 likes(jane,john).
3 likes(jack,jane).
4
5 friends(X,Y):-likes(X,Y),likes(Y,X).
```

 friends(jane,john).

true

 friends(jack,john).

false


?- friends(jack,john).

2) Food

```
1 food(burger).
2 food(sandwich).
3 food(pizza).
4 lunch(sandwich).
5 dinner(pizza).
6
7 meal(X):-food(X).
```

 food(pizza).

true

 meal(X),lunch(X).

X = sandwich


Next

10

100

1,000

Stop

 dinner(sandwich).

false

?- dinner(sandwich).

3) Math add and subtract using dynamic input

Enter Nos

1

1

2 0

true

1

 prog

Enter Nos

5

4

9 1

true

1

4) about your self

name

What is your name ?

hayden

Hello, my name is hayden

true 1

rollN

Breakpoint 1222 in 1-st clause of rollN/0 at src:9

What is your roll no?

5

Call: write('My roll no is ')

My roll no is 5

true 1

classN

Breakpoint 1225 in 1-st clause of rollN/0 at src:9

Which class are you in?

a

I am studying in class a

true 1

addrN

Breakpoint 1228 in 1-st clause of rollN/0 at src:9

What is your add

home

I live at home

true 1

5)list

Program

```
list([X],X).
list([X,Y|Tail],Max):-
    list([Y|Tail],Max1),
    max(X,Max1,Max).

max(X,Y,X):- X >= Y.
max(X,Y,Y):- X < Y.
```

list([2,3,51,13,1,2,3,4,5,6,7],Max).

Max = 51

Next 10 100 1,000 Stop

?- list([2,3,51,13,1,2,3,4,5,6,7],Max).

Conclusion : Problems in PROLOG is successfully implemented