EXNO:12
DATE:

INTRODUCTION TO PROLOG

AIM:

To learn PROLOG terminologies and write basic programs

TERMINOLOGIES:-

1] Atomic Terms:-
It is usually strings and made up of lower and uppercase letters, digits and underscore, starting with lowercase letters.
EX: dog
ab_c_321

2] variables:
variables are strings of letters, digits and underscore, starting with capital letter or an underscore.
EX: Dog
Apple_420

3] compound Terms:-
compound terms are made up of a Prolog atom and a number of arguments and seperated by commas.
EX: is_bigger(elephant, X)
f(g(X, _), 7)

4] facts:-
A facts is a predicate followed by a dot.
EX: bigger_animal(whale).
life_is_beautiful.

5] Rules:-
A rules consists of a head (a predicate) and a body (a sequence of predicates seperated by commas)
EX: is_smaller(X, Y) :- is_bigger(X, Y)
aunt(Aunt, child) :- sister(Aunt, parent).
Parent(Parent, child).

SOURCE CODE:

KB1:

```
woomen(mia)
woomen(Sody)
woomen(yolanda)
plays_air_guitar(Sody)
Party
Query 1: ?- woomen(mia)
Query 2: ?- plays_air_guitar(mia)
Query 3: ?- Party
Query 4: ?- Concert
```

OUTPUT:

```
?- woomen(mia)
true
?- play_air_guitar(mia)
false
?- Party
true
```

KB2:

```
happy(yolanda)
listens2music(mia)
listens2music(yolanda):- happy(yolanda)
listens_air_guitar(mia):- listens2music(mia)
play_air_guitar(yolanda):- listens2music(yolanda)
```

OUTPUT:

```
?- plays_air_guitar(mia)
true
?- plays_air_guitar(yolanda)
true
?-
```

KB3 :-

likes (dan, sally)
likes (sally, dan)
likes (Johny, brittney)
married (X,Y) :- likes (X,Y), likes (Y, X)
friends (X,Y) :- likes (X,Y), likes (Y, X)

OUTPUT

? likes (dan, X)
X = Sally
? married (dan, sally)
true
? married (John, brittney)
false

KB4 :-

food (burger)
food (sandwich)
food (pizza)
lunch (sandwich)
dinner (pizza)
meal (X) :- food (X)

OUTPUT :-

?-
| food (Pizza)
true
? meal (X), lunch (X)
X - sandwich
? - dinner (sandwich)
false
? -

KBS:

owns (jack, car (bmw))
owns (john, car (chevy))
owns (olivia, car (civic))
owns (jane, car (chevy))
sedan (car (bmw))
sedan (car (civic))
truck (car (chevy)).

OUTPUT:-

?- owns (john, X)
X = car (john, owns)
true
? own (who, car (chevy))
who = john
?- owns (jane, X), sedan (X)
false
?- owns (jane, X), truck (X)
X = car (chevy).

RESULT:-

Thus Prolog terminologies is implemented successfully.