Rule :

A rule can be viewed as an extension of a fact with added conditions that also have to be satisfied for it to be true. It consists of two parts.The first part is similar to a fact (a predicate with arguments). The second part consists of other clauses (facts or rules which are separated by commas)which must all be true for the rule itself to be true. These two parts are separated by " : −". You may interpret this operator as " if " in English.

parent(X, Y) :- father(X,Y).

parent(X, Y) :- mother(X, Y).

Example: 01

sells(mila,egg).

sells(joni,apple).

sells(john,bread).

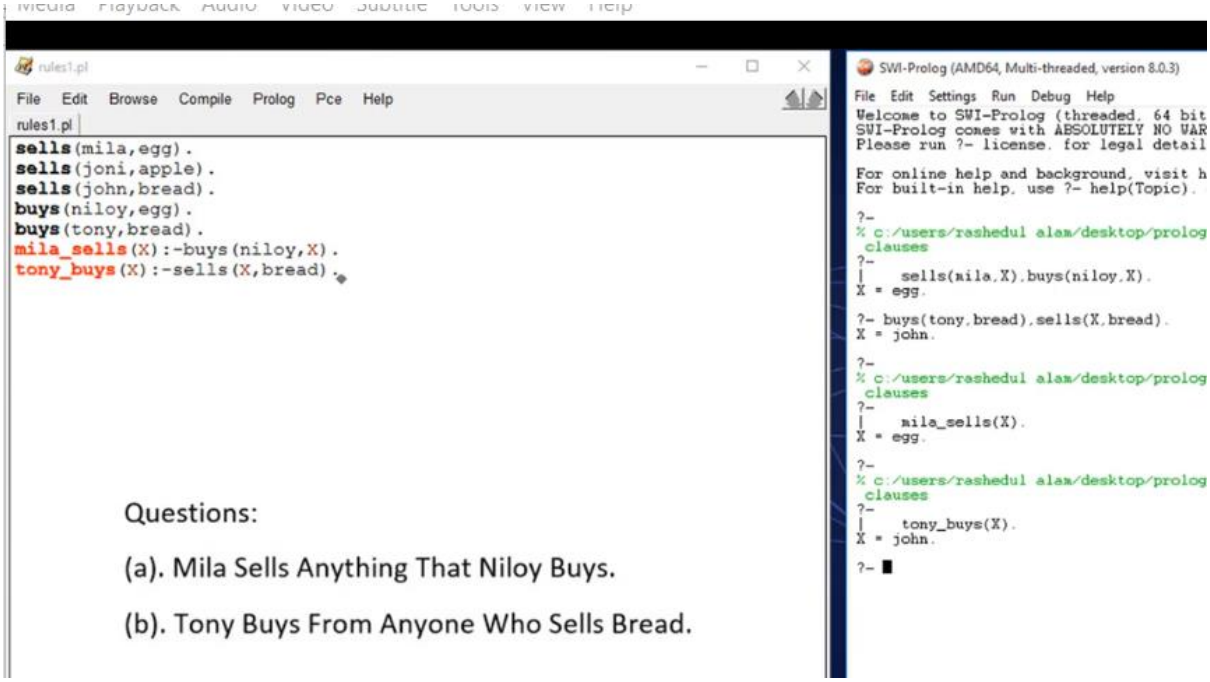
buys(niloy,egg).

buys(tony,bread)

Questions:

(a). Mila Sells Anything That Niloy Buys.

(b). Tony Buys From Anyone Who Sells Bread.



Facts:

father(shohidul,satcho).

father(jamal,shohidul).

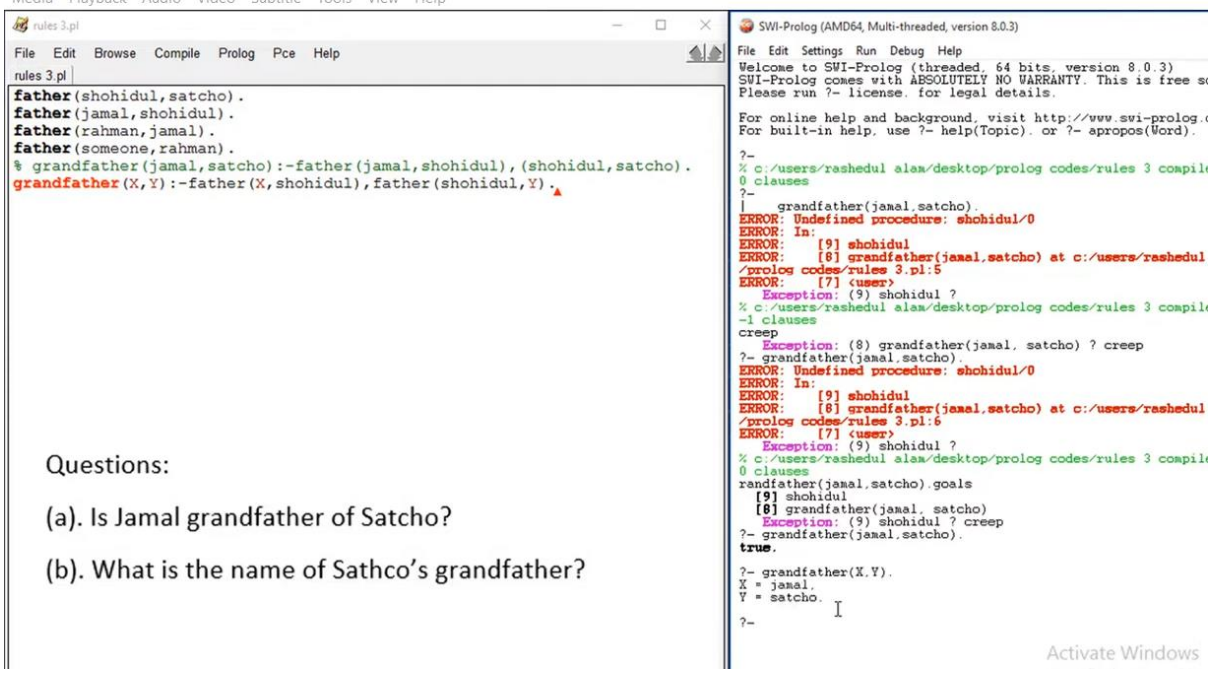
father(rahman,jamal).

father(someone,rahman).

Questions:

(a). Is Jamal grandfather of Satcho?

(b). What is the name of Sathco's grandfather?



Structure:

Nested Structure in Prolog

```
has(joe, car(ford,3,5000)).
has(joe, car(opel,2,6000)).
has(mick, car(toyota,5,1000)).
has(mick, car(ford,2,2000)).
```

What kind of Ford does Mick have?

```
has(joe, car(ford,3,5000)).
has(joe, car(opel,2,6000)).
has(mick, car(toyota,5,1000)).
has(mick, car(ford,2,2000)).
```

Query: has(mick, car(ford, Age, Price))

Answer: Age=2, Price=2000

Q: Show the Car Name and Price info (Condition: Price is less than 5000)

```
has(joe, car(ford,3,5000)).
has(joe, car(opel,2,6000)).
has(mick, car(toyota,5,1000)).
has(mick, car(ford,2,2000)).
```

```
| ?- has(_, car(Car,_,Price)), Price < 5000.
```

Outputs:

Car = toyota
Price = 1000 ? ;

Car = ford
Price = 2000 yes

Yes.

str2.pl

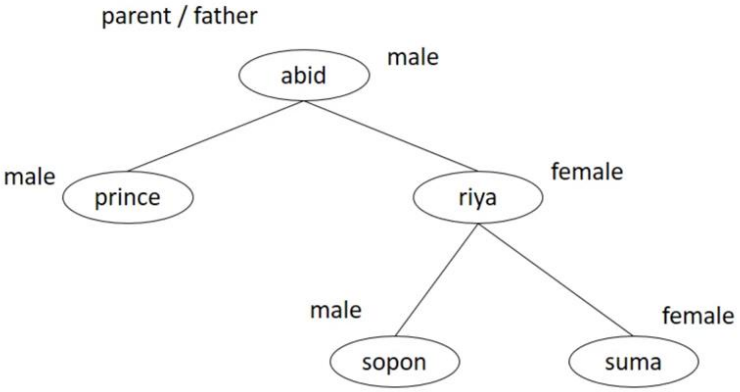
```
likes(fuad,
      movie(endgame,
            actor(chris,evans))).
```

```
For built-in help, use ?- help(Topic). or ?- apropos(Word).

?-
% c:/users/rashedul alam/desktop/prolog codes/str2 compiled
lauses
?-
|    likes(fuad,movie(endgame,actor(FirstName,LastName))).
FirstName = chris,
LastName = evans.

?- likes(fuad,movie(MOVIE,actor(chris,evans))).
MOVIE = endgame.

?-
```




```
male(abid).
male(prince).
male(sopon).
female(riya).
female(suma).
parents(abid,prince).
parents(abid,riya).
parents(riya,sopon).
parents(riya,suma).
father(X,Y) :-  parents(X,Y) , male(X).
mother(X,Y) :-  parents(X,Y) , female(X).
```

3.Rule and listing in prolog prolog programming tutorial in Bangla prolog lecture in Bangla - 3..mp4 - VLC media player

Media Playback Audio Video Subtitle Tools View Help

SWI-Prolog (AMD64, Multi-threaded, version 7.2.3)

File Edit Settings Run Debug Help

```
false.

6 ?- listing(male).
male(abid).
male(prince).
male(sopon).

true.

7 ?- listing(female).
female(riya).
female(suma).

true.

8 ?- listing(parents).
parents(abid, prince).
parents(abid, riya).
parents(riya, sopon).
parents(riya, suma).

true.
```

Raajokiaa Ritu (ritokhandaker2018@gmail.com) is signed in

prolog2 - Notepad

File Edit Format View Help

```
male(abid).
male(prince).
male(sopon).
female(riya).
female(suma).

parents(abid,prince).
parents(abid,riya).
parents(riya,sopon).
parents(riya,suma).

father(X,Y):- parents(X,Y),male(X).
mother(X,Y):- parents(X,Y),female(X).
```

Operations:

For help, use ?- help(Topic). or ?- apropos(Word).

1 ?- X is 5+7.
X = 12.

2 ?- X is 5-2.
X = 3.

3 ?- A is 5*3.
A = 15.

4 ?- B is 10/2.
B = 5.

5 ?- X is 2^4.
X = 16.

6 ?-

1 ?- X is max(7,12).
X = 12.

2 ?- A is min(7,12).
A = 7.