Questions on Prolog

1. Represent the following in Prolog:

1. Marcellus kills <u>everyone</u> who gives Mia a footmassage.
   kills(marcellus, X) :- givesFootMassage(X, mia).

2. Butch is a killer.
   killer(butch).

3. Mia and Marcellus are married.
   married(mia, marcellus).

4. Lily loves anything that is a fruit or vegetable.
   loves (lily, X) :- fruit(X); vegetable(X).

5. Lily mother of john .
   mother(lily,john).

2. How does Prolog respond to the following queries?

A)
cat(fubby).
black_spots(fubby).
dog(figaro).
white_spots(figaro).

owns(mary, Pet):- cat(Pet), black_spots(Pet).
loves(Who, What):-owns(Who, What).

?- cat(figaro).
False

?- loves(Who, What).

Who = mary, What = fubby

?- owns(mary, _).
True

B)

owns(mary,pet(cat(fubby))).

?- owns(X,_).

X= mary.

?- owns(mary,Z).

Z= pet(cat(fubby)).

3. **Which of the following sequences of characters are <u>Constant</u>, which are <u>variables</u>, and which are <u>Structure</u>?**

fOOD	Constant
Orangejuice	variable
variable23	Constant
orange_juice	Constant
'Delicious'	Constant
_food	variable
owns(X,pet(cat(fubby))).	Structure
'_food'	Constant
'big orange juice '	Constant
study(alex,python(programming_cource,code123)).	Structure

4. **MCQ**

1. In Prolog, knowledge is represented using:

a) Variables
b) Loops
c) Facts and rules
d) Functions

2. Which one of the following is not a variable?

A) X_yz
B) g_23A
C) !_Xyz
D) B & C both.

3. ?- Y is 3+2*4-1. This sentence result,

a) Y= 19
b) Y= 10
c) Y is 3+2*4-1
d) Non of the above

4. ?- X = 3+2*4-1. This sentence result,

a) X= 19
b) X= 10
c) X = 3+2*4-1
d) Non of the above

5. Which one from the options would return true/yes for given prolog program?

boy(john,123).
girl(jane,234).
student(john,123).

A) ? - girl(jane,X).
B) ?- boy('john',123).
C) All of above.
D) None of above.

6. likes (joe, fish).
   likes (joe, mary).
   likes (mary, fish).
   likes (albert, joe).

   ? - likes (Who, fish).

   A) Who = joe.
   B) Who = mary.
   C) Who = albert.
   D) Who = joe. ; Who = mary.

** For questions from 5 to 8

bigger (elephant, horse).
bigger (horse, monkey).
bigger (horse, donkey).
bigger (donkey, dog).
bigger (donkey, monkey).

7. ? - bigger (donkey, Animal).

   A) Animal = horse
   B) Animal = monkey
   C) Animal = donkey
   D) Animal = dog; Animal = monkey

8. bigger (horse, X), bigger (donkey, X).

A) X = horse
B) X = monkey
C) X = donkey
D) X = dog

9. ? - bigger (horse, _).

A) monkey
B) donkey
C) True
D) False

10. ? - is_bigger(X, dog) = is_bigger(elephant, dog).

A) X= elephant
B) X= monkey
C) X= donkey
D) False

11. In Prolog, which symbol is used to represent the end of a query?

a) !
b) .
c) :
d) ?

12. love(jin, mary). and (mary, jin).
   a) Same direction
   b) Different direction
   c) Same meaning
   d) Different meaning
   e) Bothe B and D

13. owns(X,pet(cat(fubby))). The owns relation has :

a) 1 object
b) 2 objects
c) 3 objects
d) 4 objects