.Question 1

(a)

|  |  |
| --- | --- |
| X=1+1 | X=1+1 |
| X is 1+1 | X = 2 |
| love(john, mary) | Procedure ‘love(A,B)’ does not exist |
| assert(love(john, mary)) | true |
| .([ ], .(a, Y)) = [X, a]. | X |
| setof(X, X=X, L). | L = [X] |
| findall(X, X=f(X), L). | L = X where X = f(X) |
| X=1, X<2. | X = 1 |
| X \=2, X=1. | false |
| X < 2. | Arguments not sufficiently instantiated. |

(b)

(i)

X=a

X=b

(ii)

X=a Y=a

X=a Y=b

X=b Y=a

X=b Y=b

(iii)

X=a, Y=a

X=a, Y=b

(iv)

true

(c)

fly(X) :- bird(X) \+ penguin(X).

(d)

(i)

?- mixed(succ(0)), \+ pure(succ(0)).

(ii)

X = succ(0).

Question 2

(a)

member1(X, [X|\_]):- !.  
member1(X, [H|T]):- H\=X, member1(X, T).

**X = Y**

(b)

nonmember(X,L):- \+ member(X,L).

(c)

diff(X,L1,L2) :- member(X,L1), nonmember(X,L2).

(d)

(e)