IMPLEMENTATION OF DECISION MAKING AND KNOWLEDGE REPRESENTATION

SOURCE CODE:

```
:- initialization(main).

min(X, Y, X) :- X =< Y.
min(X, Y, Y) :- X > Y.

main :-
   min(3, 5, Min),
   write(Min), nl.
```

OUTPUT:

3

```
:- initialization(main).

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

main :-
   max(3, 5, Max),
   write(Max), nl.
```

OUTPUT:

5

```
likes(mary,food).
likes(mary,wine).
likes(john,wine).
likes(john,mary).

% Facts
likes(mary, food).
likes(mary, wine).
likes(john, wine).
likes(john, mary).

% Rules
likes(john, X) :- likes(mary, X). % John likes anything that Mary likes.
likes(john, X) :- likes(X, wine). % John likes anyone who likes wine.
likes(john, X) :- likes(X, X). % John likes anyone who likes themselves.

% Initialization goal
:- initialization(main).

main :-
% Running queries and printing results
(likes(mary, food) -> write('Mary likes food'), nl ; write('Mary does not like food'), nl),
(likes(john, wine) -> write('John likes wine'), nl ; write('John does not like wine'), nl),
(likes(john, food) -> write('John likes food'), nl ; write('John does not like food'), nl).
```

Output:

```
Mary likes food
John likes wine
John likes food
```

```
% Facts
likes(mary, food).
likes(mary, wine).
likes(john, wine).
likes(john, mary).

% Queries
:- initialization(main).

main :-
% Query for likes(mary, food)
(likes(mary, food) -> write('yes'), nl ; write('no'), nl),

% Query for likes(john, wine)
(likes(john, wine) -> write('yes'), nl ; write('no'), nl),

% Query for likes(john, food)
(likes(john, food) -> write('yes'), nl ; write('no'), nl).
```

Output:

yes

yes

no

```
% Facts
likes(mary, food).
likes(mary, wine).
likes(john, wine).
likes(john, mary).

% Rules
likes(john, X) :- likes(mary, X). % John likes anything that Mary likes.
likes(john, X) :- likes(X, wine). % John likes anyone who likes wine.
likes(john, X) :- likes(X, X). % John likes anyone who likes themselves.

% Queries
:- initialization(main).

main :-
% Query for likes(mary, food)
(likes(mary, food) -> write('yes'), nl ; write('no'), nl),

% Query for likes(john, wine)
(likes(john, wine) -> write('yes'), nl ; write('no'), nl),

% Query for likes(john, food)
(likes(john, food) -> write('yes'), nl ; write('no'), nl).
```

Output:

yes

yes

yes