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## Experiment 5

# IMPLEMENTATION OF DECISION MAKING AND KNOWLEDGE REPRESENTATION

### Aim:

To implement decision making and knowledge representation using prolog tool.

### Prolog Code:

% Rule to find the minimum of two numbers

minimum(X, Y, X) :- X <= Y. % If X is less than or equal to Y, X is  
the minimum. minimum(X, Y, Y) :- X > Y. % If X is greater than Y,  
Y is the minimum.

% Rule to find the maximum of two numbers maximum(X, Y, X) :- X >= Y.  
% If X is greater than or equal to Y, X is the maximum. maximum(X,  
Y, Y) :- X < Y. % If X is less than Y, Y is the maximum.

### Example Queries:

1. To find the minimum of two numbers:

?- minimum(5, 10, Min).

### Output:

Min = 5.

2. To find the maximum of two numbers:

?- maximum(5, 10, Max).

**Output:**

Max = 10.  
?- minimum(8, 3, Min), maximum(8, 3, Max).

**Output:**

Min = 3, Max = 8.

**Prolog Code:**

% Given facts

likes(mary, food).

likes(mary, wine).

likes(john, wine).

likes(john, mary).

% Rules based on the conditions:

likes(john, X) :- likes(mary, X). % John likes anything that

Mary likes likes(john, Y) :- likes(Y, wine). % John likes

anyone who likes wine likes(john, Y) :- likes(Y, Y). % John

likes anyone who likes themselves

% Sample queries:

% Query 1: Does John like food?

% ?- likes(john, food).

% Query 2: Does John like wine?

% ?- likes(john, wine).

% Query 3: Does John like food if Mary likes food?

% ?- likes(john, food).

% Query 4: Who does John like?

% ?- likes(john, Y).

### Output:

Query: ?- likes(john, food).

yes

Query: ?- likes(john, wine).

yes

Query: ?- likes(john, food).

yes

Query: ?- likes(john, Y).

```
Y = mary ;  
Y = john ;  
Y = wine ;
```

Query?- likes(john, Y).

Y = mary ;

Y = john ;

Y = wine ;

