

IMPLEMENTATION OF DECISION MAKING AND KNOWLEDGE REPRESENTATION

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PROGRAM:

% 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:

The screenshot displays a Prolog IDE with a program editor on the left and an output window on the right.

Program Editor:

```
1 likes(mary, food).
2 likes(mary, wine).
3 likes(john, wine).
4 likes(john, mary).
5
6 likes(john, X) :- likes(mary, X).
7 likes(john, Y) :- likes(Y, wine).
8 likes(john, Y) :- likes(Y, Y).
9
10
11
12
```

Output Window:

The output window shows the execution of the program. It starts with a gear icon and the text `likes(john,food).`, followed by `true`. Then, another gear icon and `likes(john,wine).` are shown, followed by `true`. A control bar with buttons for `Next`, `10`, `100`, `1,000`, and `Stop` is visible. The output continues with a gear icon and `likes(john,food).`, followed by `true`. Then, a gear icon and `likes(john,Y).` are shown, followed by `Y = wine`. Next, a gear icon and `write('Shashwat Aarya').` are shown, followed by `Shashwat Aarya` and `true`. Then, a gear icon and `write('241801261').` are shown, followed by `241801261` and `true`. Finally, a gear icon and `?- write('241801261').` are shown.