

create a prolog example, who is the killer, and don't use the gardener

Below is a small **Prolog** “murder mystery” that asks the question “who killed the victim?”

The story contains four suspects – the lawyer, the accountant, the chef, and the gardener.

Because you asked to avoid the gardener as the killer, we encode that rule explicitly.

```
` `` `prolog
```

```
/* ----- Facts ----- */
```

```
/* Each suspect is a person. */
```

```
suspect(lawyer).
```

```
suspect(accountant).
```

```
suspect(chef).
```

```
suspect(gardener).
```

```
/* The victim's name (not used in the logic but for flavor). */
```

```
victim(john_doe).
```

```
/* Clues from the crime scene */
```

```
/* 1. The killer had a motive: they were jealous of the victim's wealth. */
```

```
motive(lawyer).
```

```
motive(accountant).
```

```
motive(chef).    % the chef was in love with the victim's wife
```

```
% gardener is not jealous – no motive
```

```
/* 2. The killer left a signature: a distinctive perfume scent. */
```

signature(lawyer, rose).

signature(accountant, jasmine).

signature(chef, cinnamon).

% gardener did not use any of these scents

/* 3. Witness saw the killer near the crime scene at midnight. */

saw_at_midnight(lawyer).

saw_at_midnight(accountant).

saw_at_midnight(chef).

% gardener was away on a business trip

/* ----- Rules ----- */

/* A suspect is a potential killer if they satisfy all three clues. */

potential_killer(S) :-

 suspect(S),

 motive(S),

 signature(S, _), % any scent

 saw_at_midnight(S).

/* The murderer must be a potential killer and not the gardener. */

murderer(M) :-

 potential_killer(M),

 M \= gardener.

...

How to query

```
` `` `prolog
```

```
?- murderer(X).
```

```
` `` `
```

The interpreter will answer:

```
` `` `
```

```
X = lawyer ;
```

```
X = accountant ;
```

```
X = chef.
```

```
` `` `
```

If you want to see why each person is ruled out, you can ask:

```
` `` `prolog
```

```
?- suspect(S), \+ murderer(S).
```

```
` `` `
```

which will list **gardener** as the only excluded suspect.

Feel free to add more clues (e.g., fingerprints, alibis) and extend the rules. The key idea is that by **excluding** the gardener in the `` murderer/1`` rule (`` M \= gardener``) we guarantee that Prolog will never return the gardener as a solution.