



SWI PROLOG

EXAMPLE JIM'S FAMILY

قسم الذكاء الاصطناعي 2025-2026

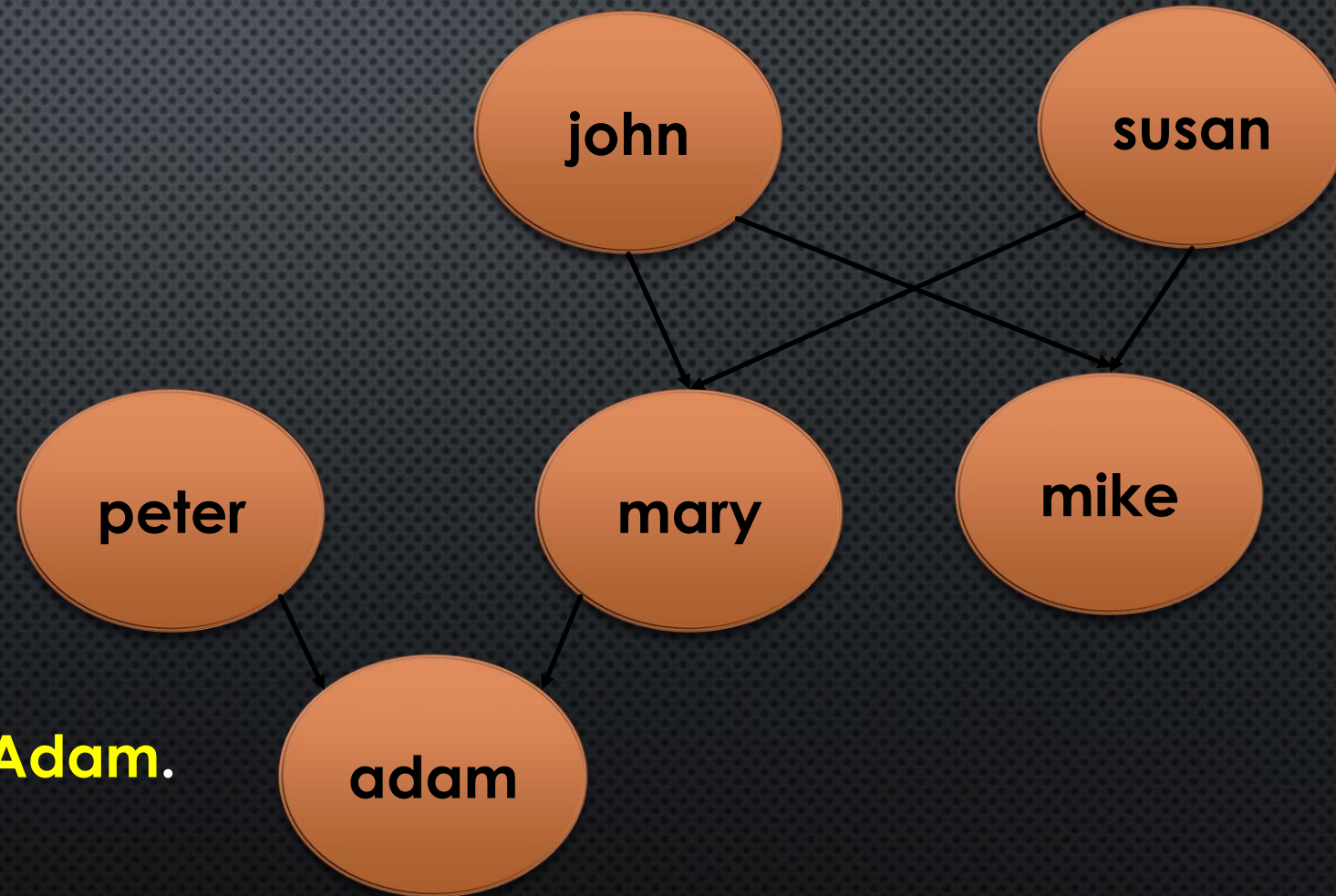
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م.م نور عمار ياسر

The family story relationship

John is the parent of **Mary**.
John is the parent of **Mike**.
Susan is the parent of **Mary**.
Susan is the parent of **Mike**.
Peter and Mary is the parent of **Adam**.

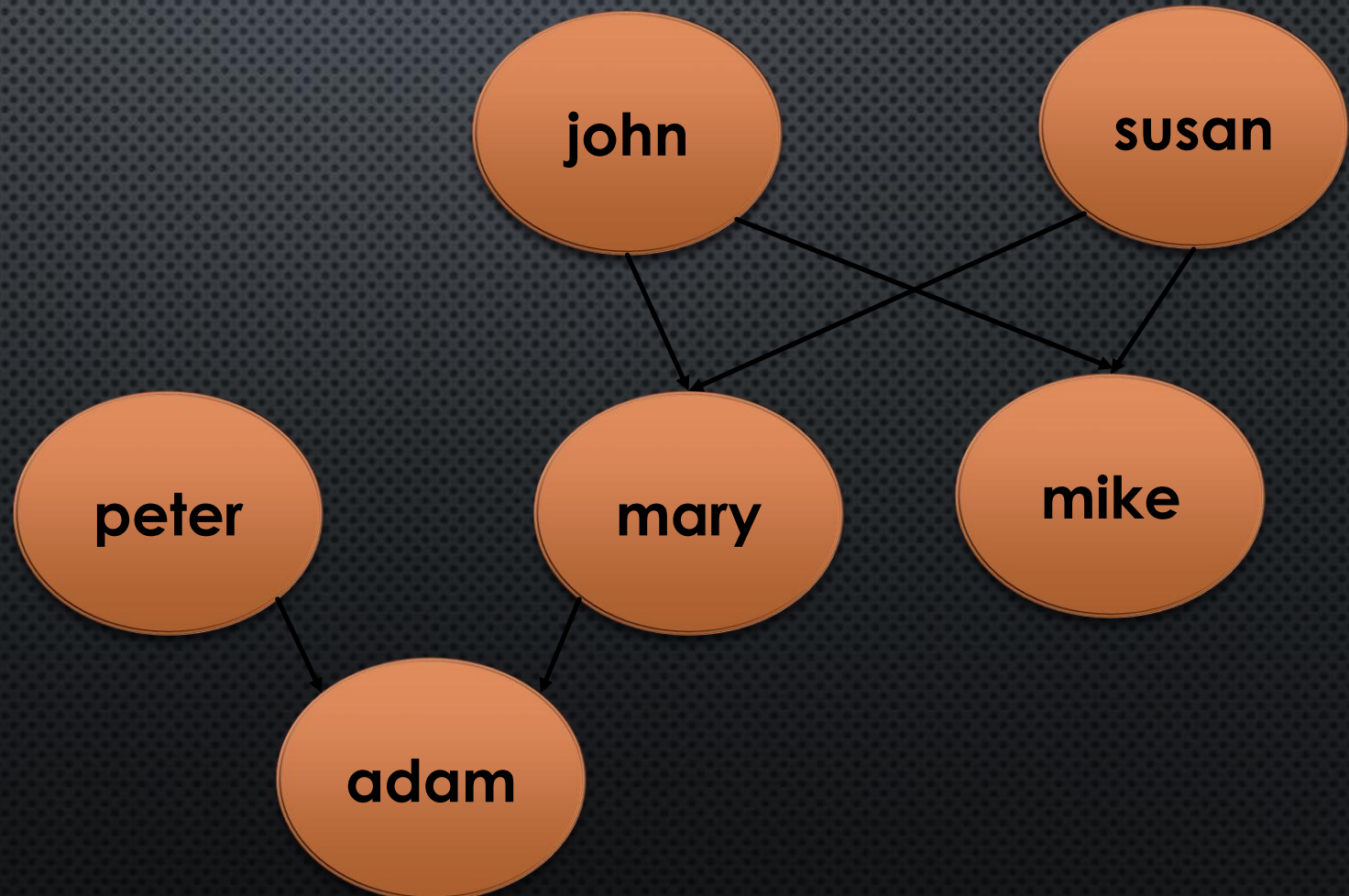
The family tree relationship

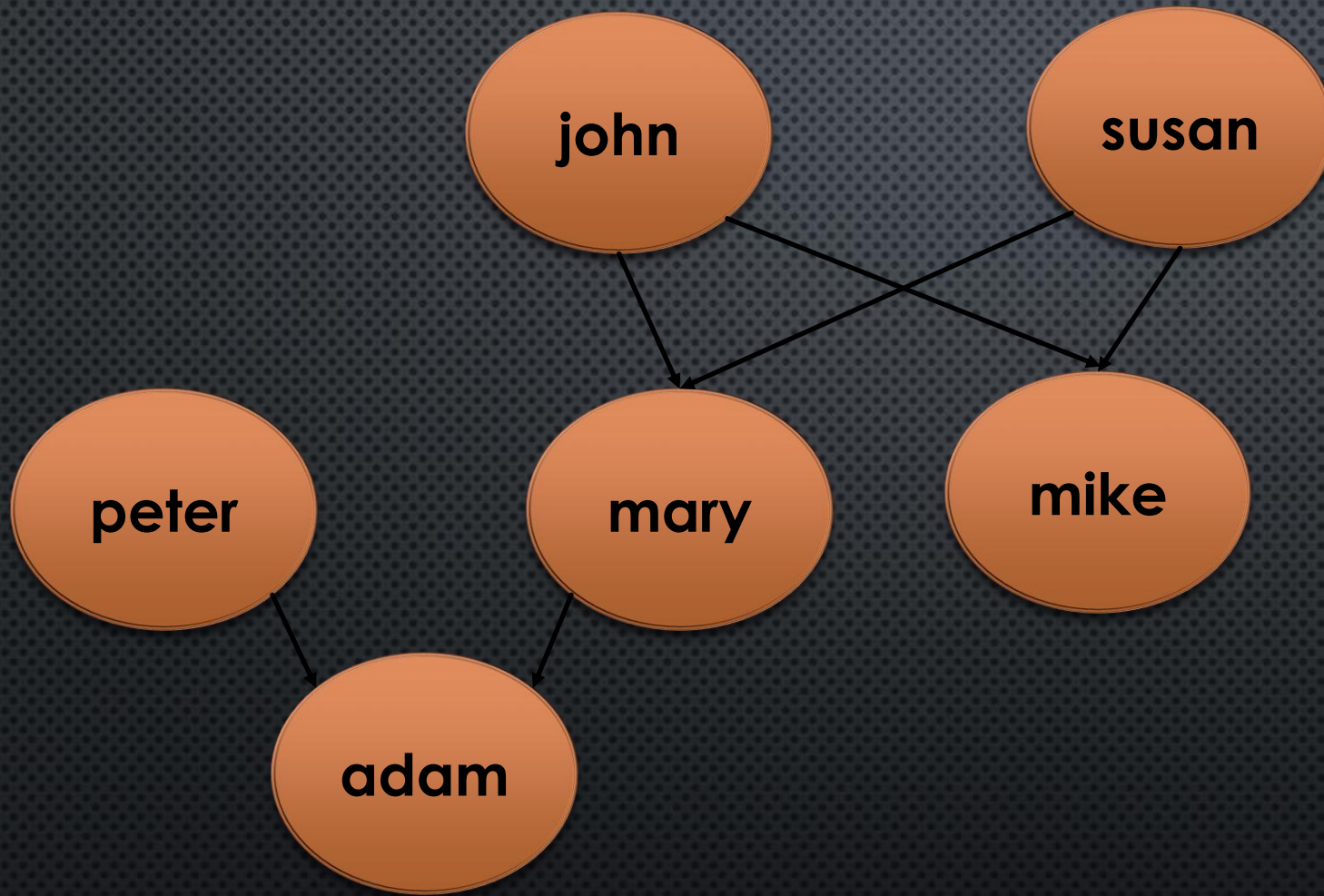


Write the family tree relationship program in SWI prolog:

**% Gender
facts**

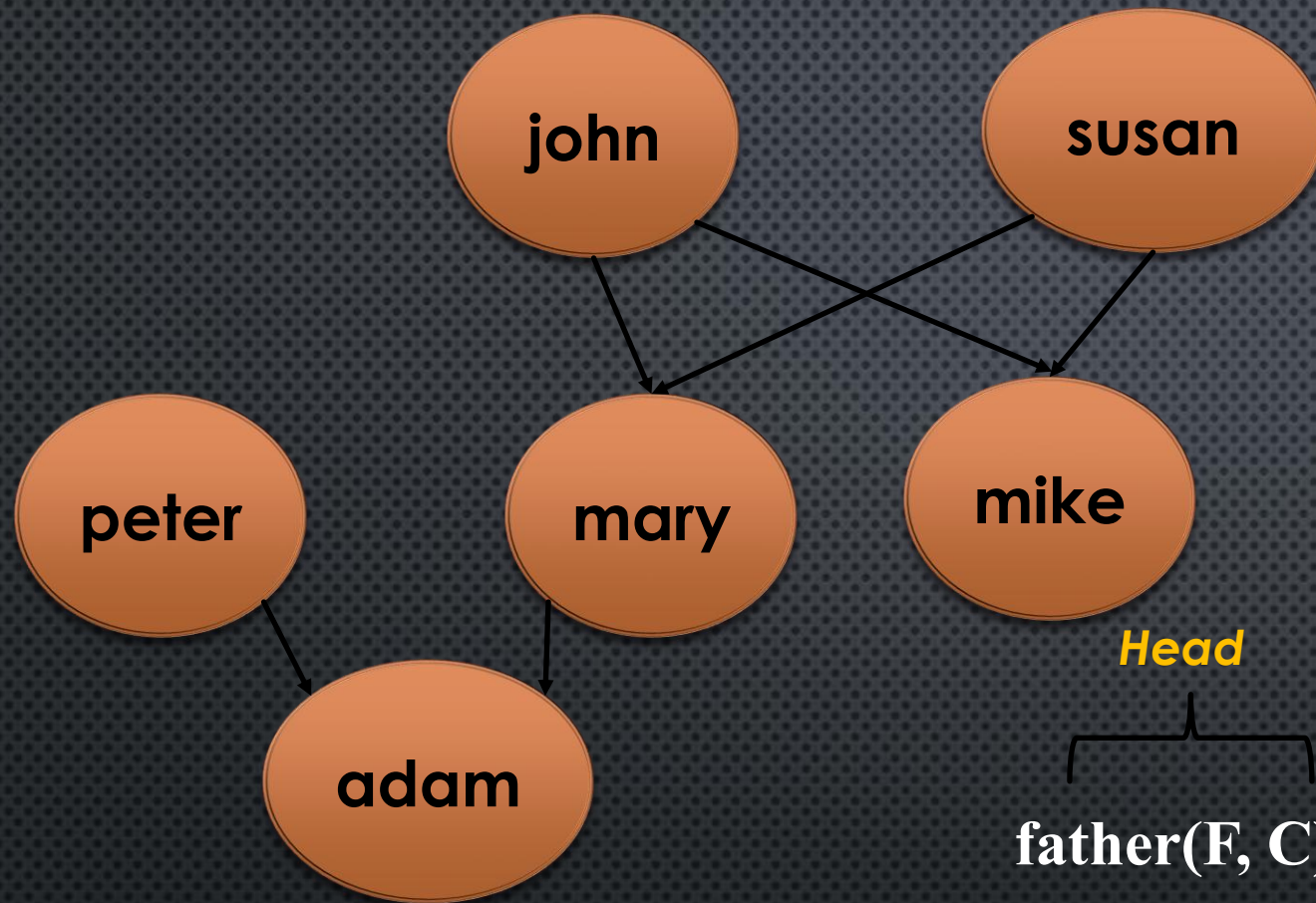
**male(john).
male(mike).
male(adam).
male(peter).
female(susan).
female(mary).**





% facts

**parent(john, mary).
parent(john, mike).
parent(susan, mary).
parent(susan, mike).
parent(mary, adam).
parent(peter, adam).**



Head

Body

father(F, C):- parent(F, C), male(F).

mother(M, C):-parent(M, C), female(M).

grandparent(G, C) :-parent(G, P), parent(P, C).

sibling(X, Y) :-parent(P, X), parent(P, Y), X \= Y.

% facts

male(john).

male(mike).

male(adam).

male(peter).

female(susan).

female(mary).

parent(john, mary).

parent(john, mike).

parent(susan, mary).

parent(susan, mike).

parent(mary, adam).

parent(peter, adam).

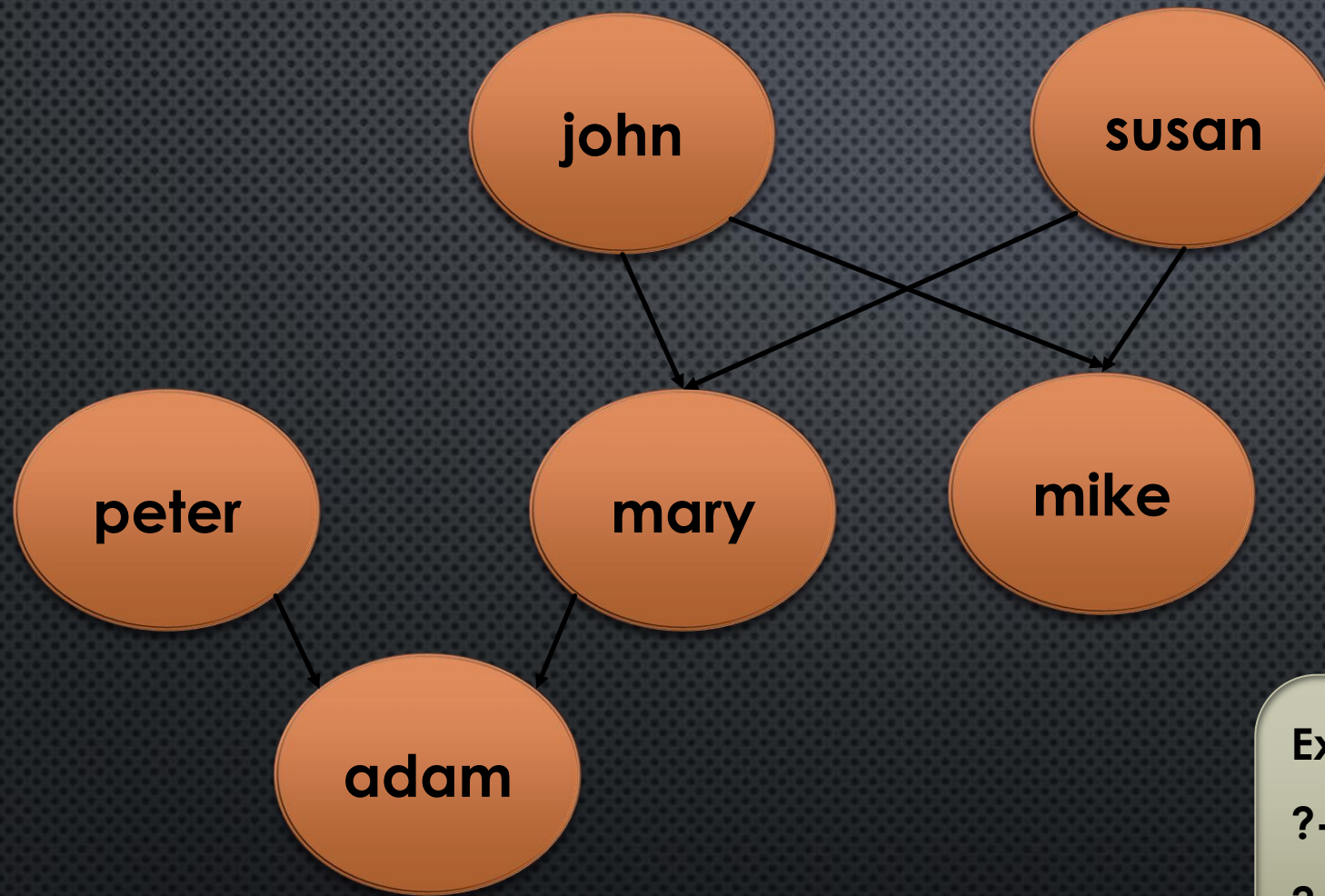
% Rules

father(F, C):- parent(F, C), male(F).

mother(M, C):-parent(M, C), female(M).

grandparent(G, C) :-parent(G, P), parent(P, C).

sibling(X, Y) :-parent(P, X), parent(P, Y), X \= Y.



Example queries:

?- father(john, Who).

?- sibling(mary, Who).

?- grandparent(Who1, Who2).