

PRACTICAL: 08

**Aim:**

# Given the following Prolog facts:

* father(a, b).
* father(a, c).
* father(b, d).
* father(b, e).
* father(c, f).

# Define the following predicates:

1. brother(X, Y): X and Y are brothers.
2. cousin(X, Y): X and Y are cousins.
3. grandson(X, Y): X is a grandson of Y.
4. descendent(X, Y): X is a descendant of Y.

# For each query, provide the results and their order:

1. ?- brother(X, Y).
2. ?- cousin(X, Y).
3. ?- grandson(X, Y).
4. ?- descendent(X, Y).

# Program:

% Define the father relationships father(a, b).

father(a, c).

father(b, d).

father(b, e).

father(c, f).

% Define the brother predicate brother(X, Y) :-

father(F, X),

father(F, Y), X \= Y.

% Define the cousin predicate cousin(X, Y) :-

father(F1, X),

father(F2, Y), brother(F1, F2).



% Define the grandson predicate grandson(X, Y) :-

father(Y, P),

father(P, X).

% Define the descendant predicate descendant(X, Y) :-

father(Y, X). descendant(X, Y) :-

father(Y, P), descendant(X, P).

**Output:**

