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**DESIGN DOC**

**PROLOG**

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**# Print and NewLine:**

| ?- write('Hello World!'), nl,

write('Let\'s Program').

Hello World!

Let's Program

**# Add to database [db.pl]:**

loves(romeo, juliet).

loves(juliet, romeo) :- loves(romeo, juliet).

male(albert).

male(bob).

male(bill).

male(carl).

male(charlie).

male(dan).

male(edward).

female(alice).

female(betsy).

female(diana).

**# Check if they exist in database [db.pl]:**

[db]. // remember to always load database

| ?- loves(romeo, juliet).

Yes

| ?- loves(juliet, romeo).

Yes

| ?- loves(romeo, X). // notice that the x is uppercase.. it gives off the unknown value.

X = juliet

**# List similar things from database [db.pl]:**

| ?- listing(male).

% file: D:/Projects/Prolog\_Self\_Learning/db.pl

male(albert).

male(bob).

male(bill).

male(carl).

male(charlie).

male(dan).

male(edward).

(31 ms) yes

**# Make Different combinations from the database:**

| ?- male(X), female(Y).

X = albert

Y = alice ?

Action (; for next solution, a for all solutions, RET to stop) ? ;

X = albert

Y = betsy ? ;

X = albert

Y = diana ? ;

X = bob

Y = alice ? ;

X = bob

Y = betsy ? ;

X = bob

Y = diana ? ;

X = bill

Y = alice ? ;

X = bill

Y = betsy ? ;

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**# Facts: The simple data in database that are independent.**

**# Rules: When a fact depends on another fact, that is rule.**

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**# Lets make another database called db1.pl:**

loves(romeo, juliet).

loves(juliet, romeo) :- loves(romeo, juliet).

happy(albert).

happy(alice).

happy(bob).

happy(bill).

with\_albert(alice).

runs(albert) :-

happy(albert).

dances(alice) :-

happy(alice),

with\_albert(alice).

does\_alice\_dance :- dances(alice),

write('When Alice is Happy and with Albert she dances.').

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**# Variables: They all start with uppercase letter.**

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**# at this point I gave up on updating the database here.. Check out from the folder**

**# Who is the parent?:**

parent(X, bob).

X = albert ? ;

X = alice ? ;

No

**# Who are the children?:**

parent(alice, X).

X = bob ? ;

X = betsy ? ;

X = bill

yes

**# Complex questions:**

* Who are the parents of ‘bob’ who also happen to dance?

| ?- parent(X, bob), dances(X).

X = alice ? ;

No

* Looking for grandparents here?

| ?- parent(Y, carl),

parent(X, Y).

X = albert

Y = bob ? ;

X = alice

Y = bob ? ;

(16 ms) no

* Are you a parent? Do you have Grandchildren?

| ?- parent(albert, X),

parent(X, Y).

X = bob

Y = carl ? ;

X = bob

Y = charlie ? ;

No