# randomsEg1.pl

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## Contents

# 1 Demo of Randoms

Demo stuff

# 2 Header

## 2.1 Loads */

```
:- ensure_loaded([randoms,demo]). /*
```

# 3 Body */

```
eg(any1) :-
  forall(any(member(X,[every,good,boy,deserves,fruit])),
         format('~w\n',[X])).

eg(rand0) :-
  Rand1 is rand,
  format('~w is a random number between 0 and 1.\n', [Rand1]).

eg(rand2) :-
  Rand2 is rand(10,20),
  format('~w is a random number between 10 and 20.\n', [Rand2]).

eg(rand3) :-
  R1 is rand(10,20,0.9),    R2 is rand(10,20,0.9),
  R3 is rand(10,20,0.9),    R4 is rand(10,20,0.9),
  R5 is rand(10,20,0.9),    R6 is rand(10,20,0.9),
  R7 is rand(10,20,0.9),    R8 is rand(10,20,0.9),
  R9 is rand(10,20,0.9),    R10 is rand(10,20,0.9),
  Nums=[R1,R2,R3,R4,R5,R6,R7,R8,R9,R10],
  format('~w\nare random numbers 90\% between 10 and 20.\n', [Nums]).

eg(normal2) :-
  R1 is normal(10,2),    R2 is normal(10,2),
  R3 is normal(10,2),    R4 is normal(10,2),
  R5 is normal(10,2),    R6 is normal(10,2),
  R7 is normal(10,2),    R8 is normal(10,2),
  R9 is normal(10,2),    R10 is normal(10,2),
  Nums=[R1,R2,R3,R4,R5,R6,R7,R8,R9,R10],
  format('~w\nare random numbers from normal(10,2).\n', [Nums]).

eg(gamma2) :-
  R1 is gamma(10,2),    R2 is gamma(10,2),
  R3 is gamma(10,2),    R4 is gamma(10,2),
  R5 is gamma(10,2),    R6 is gamma(10,2),
  R7 is gamma(10,2),    R8 is gamma(10,2),
  R9 is gamma(10,2),    R10 is gamma(10,2),
  Nums=[R1,R2,R3,R4,R5,R6,R7,R8,R9,R10],
  format('~w\nare random numbers from gamma(10,2).\n', [Nums]).
```

```
eg(gammas) :-
       N=1000,
       Mean=10,
       Alpha=1,
       eggammas(N,Mean,Alpha).

eg(seed) :-
       N=1000,
        egseed(N).

 eggammas(N,Mean,Alpha) :-
       bagof(X,I^(between(1,N,I),
                  X is gamma(Mean,Alpha)), L),
        sum(L,Sum),
        Temp is Sum/N,
        format('got ~w, expected ~w\n',[Temp,Mean]).

egseed(N) :-
       bagof(X,I^(between(1,N,I),
                  X is rand), L),
        sum(L,Sum),
        Temp is Sum/N,
        format('got ~w, expected 0.5\n',[Temp]).

sum([H|T],Sum) :- sum(T,H,Sum).

sum([],Out,Out).
sum([H|T],Temp,Out) :- New is H+Temp, sum(T,New,Out). /*
```

# 4 Footer

## 4.1 Start-ups */

```
%:- egs.
```