Answer on Question #45296,
Programming, Mat LAB | Mathematica | MathCAD | Maple

**Problem.**

If there is a group of n people in a room,
what is the probability that two or more of them having same
birthday? It is possible to determine answer to this question by simulation.
(Hint:
You can generate
random dates
,
n times and determine the
fraction of people who born in a given day).
Write a f
unction
that determines the answer to this question by simulation. The
program
you wr
ite can take n as the
input
and prints out
the probability that two or more of n people will have the same birthday for
n=2,3,4.... 40

**Solution.**

*Code (MATLAB)*

```
function probability()
    clc();
    % Input
    n = input('The number of people: ');
    for i = 1:1:4
        % The number of simulations
        m = 10^i;
        % The number of successful simulations
        % (when there is two or more people with same birthday date)
        simSuc = 0;

        % Simulation loop
        for j = 1:1:m
            simGrp = randi(365, 1, n);
            if length(unique(simGrp)) ~= n
                simSuc = simSuc + 1;
            end
        end
        % Output
        fprintf('The probability equals %f (%d simulations)\n', simSuc/m, m);
    end
end
```

*Result*