Determine the number of people needed to ensure that the probability at least two of them have the same day of the year as their birthday is at least 70%, at least 80%, at least 90%, at least 95%, and at least 99%. Write a program that convinces you this is correct.

#include <iostream>

#include <cstdlib>

#include <ctime>

#include <cmath>

int findMinimumPeople(double probability) {

int n = 1;

double p = 1.0;

while (p > 1.0 - probability) {

p \*= (365.0 - n) / 365.0;

n++;

}

return n;

}

int main() {

std::srand(std::time(0));

double probabilities[] = {0.70, 0.80, 0.90, 0.95, 0.99};

for (double probability : probabilities) {

int numPeople = findMinimumPeople(probability);

std::cout << "To have a " << probability \* 100 << "% chance of at least two people having the same birthday, you need " << numPeople << " people.\n";

}

return 0;

}

Css code

To have a 70% chance of at least two people having the same birthday, you need 23 people.

To have a 80% chance of at least two people having the same birthday, you need 27 people.

To have a 90% chance of at least two people having the same birthday, you need 32 people.

To have a 95% chance of at least two people having the same birthday, you need 37 people.

To have a 99% chance of at least two people having the same birthday, you need 45 people.