**Programming 1 Week 8 Lab Exercises**

You are allowed to use online resources like W3Schools (recommended) for syntaxes.

Create a file named lastname\_studentnumber.txt. For each of the exercises below, copy your solution from your .java file (after it has been compiled and ran successfully), indicate the exercise number and paste into the .txt document. Submit the .txt file on Lea.

Continuing with the birthday program from this week’s lecture, solve the following related questions

1. How many random people do you have to select before you find **three** people who share the same birthday? (That is, all three people were born on the same day in the same month, but not necessarily in the same year.)
2. Suppose you choose 365 people at random. How many different birthdays will they have? (The number could theoretically be anywhere from 1 to 365).
3. How many different people do you have to check before you've found at least one person with a birthday on each of the 365 days of the year?

Write **3 programs** to answer these questions. Each of your programs should simulate choosing people at random and checking their birthdays. (In each case, ignore the possibility of leap years.)