Assessment 2 - Data Analysis

Instructions:

Use the **tidyverse** (and other libraries at your discretion).

Download the 'NZ nitrate leaching from livestock data set'.

Open the following link and click the download button, then move the data to your working directory.

https://data.mfe.govt.nz/document/21937-nitrate-leaching-from-livestock-time-series-19902017-raw-data/

Alternatively, you can find the data set on moodle to download and move it. It is also acceptable to download it via URL from the course GitHub repository.

All tasks equally weighted, and the whole assignment is worth 25% of the final grade.

This data set records the nitrate leaching for different stock classes, for each region, over time.

Due: 17/05/2023

Tasks:

1) Import the data and call it **"nitrate_leaching"**. Then, change the relevant column names to **"Region"**, **"Livestock_type"**, **"Date"**, **"Leaching"**.

2) How many unique values for livestock type are there? Choose one and plot it over time.

3) Create 2 new columns, one for decade and one for century based on the date column. Both of these columns should contain 4-digit integers (i.e. **1990**, *or* **1900**).

4) Use a plot or table to determine total leaching for your choose stock class for the last decade.

5) Find the year with the highest and lowest leaching per stock class in your chosen region.

6) Now that you are more familiar with the data set, make a hypothesis about any relationship you could explore (in this data set). State the hypothesis in your script using a comment ("#"). Now test your hypothesis in R. Leave another comment explaining what your did/tried to do and whether your exploration indicates your hypothesis is correct or not.