LAB 1.2 JavaScript

Due Monday by 23:59 **Points** None

Aim

Review your JavaScript by building a web page with two buttons that change the image being shown.

Purpose

In this unit you will learn to use D3 to create web-based visualisations. D3 is a JavaScripting library that is used in conjunction with HTML and CSS. To help make sure you are ready to do D3 this tasks requires you to add some JavaScript to your webpage from Task 1.1.

Starter Code and/or Resources

Code and resources from Exercise 1.1 (COS30045 1.1 Resources.zip)

Resources

Textbook:

- Chapter 3 Murray (2017) Interactive Data Visualisation (2nd Ed) on ProQuest

Web Resources:

- W3Schools: JavaScript
- Modzilla JavaScript
- codeacademy
- w3schools: JavaScript Quiz

Overview

To complete this exercise you will need to:

Design and create visualisation of pet ownership in Australia in Excel

- create a visualisation in Excel uses data from Pet ownership in 2021 table (p9 of AMA Report) (also see *Canvas/Assignments/LAB 1.1 HTML and CSS/COS30045 1.1 Resources.zip/pet_ownership_in_australia_table.png or Canvas/Assignments/LAB 1.2 JavaScript Review/COS30045 1.2 Resources.zip/pet_ownership_2019_2021.xlsx*) that is appropriate for the data types
- provide screen shot of visualisation created in Excel (or software of your choice)

Allow the user to change their view of the data in web page

- Add JavaScript to Exercise 1.1 is used to allow the user to interact with the webpage to change their view of the data (e.g., using buttons)
- figure captions update with chart image
- images have appropriate alt text
- buttons are styled using CSS

Activity Guide

Step 1 Create visualisations using Excel (or software of your choice)

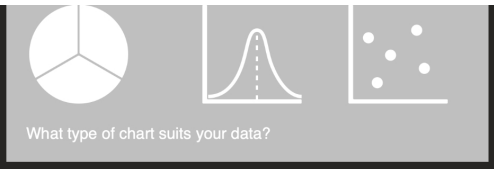
In Task 1.1 we showed a table of the pet ownership data. However, the table is dense and not very visual. In this task you will use Excel (or charting software of your choice) to create visualisations of the household pet ownership data.

Tip: If you are new to using Excel for creating charts then it may be worth viewing the following LinkedIn Learning Video: Excel Data Visualization: Mastering 20+ Charts and Graphs. Use your Swin email to get free access to all LinkedIn Learning resources.

Create *three* visualisations based on the pet ownership data table. Feel free to design a visualisation to answer questions of your choice. However, here are some examples to get you started:

- What type of pets did Australians own in 2019, and which were the most/least popular?
- What type of pets did Australians own in 2021, and which were the most/least popular?
- How did pet ownership in 2019 compare with 2021?
- Which pets saw the biggest increase/decrease in ownership between 2019 and 2021?

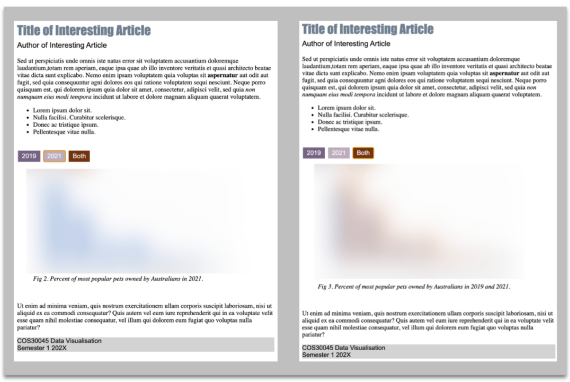
The data required to make visualisations that answers these questions can be found at *Canvas/Assignments/LAB 1.2 JavaScriptReview/COS30045 1.2 Resources.zip/pet_ownership_2019_2021.xlsx.*



Step 2 Add some JavaScript

Use JavaScript buttons to allow the user to switch between images of your three visualisations Make sure that you update the caption and alt text when swapping between the three.

You do not have to use the same style as in the example, but you are expected to apply some CSS styling on the buttons.



When user clicks on '2021' they get 2021 data

When user clicks on 'Both' button they see a visualisation that compares 2019 and 2021

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