**Module 4 Exercises**

## Exercise 1: Lab – Figma (Page 28. Of Module 4 content pdf)

No right or wrong specifically, follow the design procedure:

· Requirements

· Sketch

· Lo-Fi

· Hi-Fi

Make the figma link public and viewable and just create a file that has a link to it in your labs repository.

## Exercise 2: Lab – Template (Page 35)

Make sure you do all three parts!

1. Ensure the function can have content passed to the card dynamically.
2. Modify the code so the cards are automatically generated based on data from an array. This ensures that you can make as many cards as needed to display all the data in the array. Use the provided code on the right hand side.   
   (const data = [{name: ‘bob’, age: 23}, {name: ‘alice’, age: 39}]
3. Generate multiple templates and populate your web page dynamically, use the provided code on the slide of Van Gogh and his portfolio.

## Exercise 3: Lab – Calculator (Page 38)

As Jo mentioned, don’t worry about getting the perfect scientific calculator working – try and follow the design process and follow the instructions on the slide. The base of the application is an app that takes 2 numbers that can do 4 operations (+, /, \*, -). Pressing the ‘equals’ button will display the result. Pressing the ‘reset’ button will clear the display.

Try not to use the eval() function – you will see on the MDN there are big security issues therefore we don’t use it, and implementing eval isn’t going to yield you results in terms of your learning.

If in your research and tackling this project you come across anonymous functions – don’t utilize this to do the leg work of your calculation for you. There are similar security issues and you don’t want to ‘cheat’ and let something do the logical parts of your application for you.

Ensure you do the following:  
- Create a repository

- Clone the repository locally

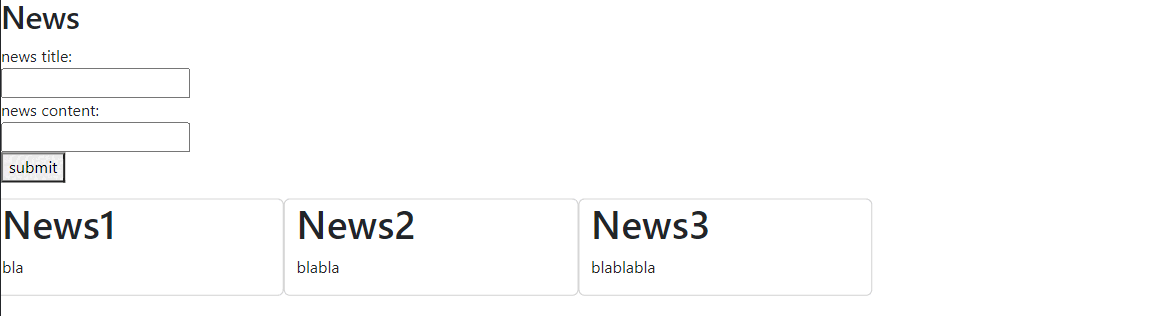
- Create a branch for each feature

## Exercise 4: Lab – Display Cards Bootstrap (Page 52)

Utilize bootstrap elements to make a responsive design

Optional Ext: Try and use what you’ve learnt on page 34 and use templates/javascript to populate your web page with your cards.

## Exercise 5: Lab – Manage Data 1 (Page 57)

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Example of how labs 1 & 2 come together -

Frames in order:

1. When you first open the page
2. When you add content (newsItem to your news array)
3. Interval function kicks in and displays new data

## Exercise 6: Lab – Manage Data 2 (Page 58)

## Exercise 7: Lab – Fetch Data (Page 67)

Part 1) Make use of the fetch API to retrieve data online and display it. Set the limit default to 10. When the page loads up, it will use the default value.

## Exercise 8: Lab – CSS Animation (Page 74)

## Exercise 9: Moment.js Dates (Page 86)

For question 2 (years, months & days between birthdate and current date), don’t fret too much if you don’t get a *hyper* accurate representation.

## Exercise 10: Apache E-Charts Lab (Page 92)

## Exercise 11: E-Commerce page (Page 93)