**Unit 9 Lab – JavaScript -DOM**

* Reading and updating the DOM
* DOM Events

**Exercise 1 - Stars**

1. Create a new folder called “Unit 9” containing a folder called “exercise-1-stars”
2. Write a script which asks a user using the prompt() function to enter a value and then prints out that number of stars(\*). Check that it’s a number and non-negative
3. Write the stars to the console and to the HTML document as shown below

A white rectangular object with blue and orange flowers

Description automatically generated

**Exercise 2 - Sums**

1. Create a new folder called “exercise-2-sums”
2. Write a script which asks the user to enter a set of 5 numbers
3. The program should print the sum of the numbers inputted and average to the DOM (HTML doc) and to the console

A close-up of a number

Description automatically generated

**Exercise 3 - Factorials**

1. Create a new folder called “exercise-3-factorials”
2. Using a nested for loop write a programme that accepts an integer value from the user
3. The programme should calculate the factorial for this value and every subsequent value back to 1
4. Check to see if the value is a number, greater than 1 and less than 20
5. The generated output should look like that below

A screenshot of a computer

Description automatically generated

**Exercise 4 – Sums using while loop**

1. Create a new folder called “exercise-4-sums”
2. Modify the solution from exercise 2 to write a script that asks the user to enter a range of positive values (-1 to quit) and then prints the sum and average of the values
3. You will need two while loops and an if statement
4. You must keep a record of the number of entries i.e. a count of how many numbers the user enters
5. The generated output should look similar to that below

A close-up of a number

Description automatically generated

**Exercise 5 – Sums displayed in a table**

1. Modify the previous exercise (4) to insert the data into a table as illustrated in the following two examples. Ensure that all results are displayed correct to 3 decimal places

A screenshot of a math game

Description automatically generated A screenshot of a math game

Description automatically generated

**Exercise 6 – DOM Events**

1. Copy the exercise-6-starter-code folder and rename it as exercises-6-dom-events
2. Select the elements we'll be working with
3. Create a function to change the text colour of a paragraph
4. How can you change the text colour of para1 when btn1 is clicked?

Hint: Use the addEventListener() method to add a click event listener to btn1, and call the changeColour() function inside the event listener function, passing para1 as the argument

1. How can you change the text colour of para2 when btn2 is clicked?

Hint: Use the addEventListener() method to add a click event listener to btn2, and call the changeColour() function inside the event listener function, passing para2 as the argument

1. How can you create a new paragraph element and add it to the container?

Hint: Use the createElement() method to create a new p element, set its text content using the textContent property, and append it to the container using the appendChild() method

1. How can you change the background colour of para1 to yellow when it is clicked?

Hint: Use the addEventListener() method to add a click event listener to para1, and set its backgroundColour property to "yellow" inside the event listener function

1. How can you add a "highlight" class to para2 when the user hovers over it, and remove the class when the user stops hovering?

Hint: Use the classList property to add the "highlight" class to para2 when the mouseover event is triggered, and remove the class when the mouseout event is triggered

1. How can you add a "Delete" button after each paragraph that removes the paragraph from the DOM when clicked?

Hint: Use the querySelectorAll() method to select all p elements on the page, and loop through them using the forEach() method. Inside the loop, create a new button element, set its text content using the textContent property, append it to the p element using the appendChild() method, and add a click event listener to the button that removes the p element from the DOM using the remove() method.e previous exercise