Lab 3 – Create and Call functions

1. Create your own matlab function for the factorial

2. Re-design the code from Lab 2

3. For each exercise use the online linter to check the code style.

Tutorial Exercise 2

- Create your own Matlab function to compute the **factorial of a non-negative integer n**:

$$n! = n*(n-1)!$$

- Remember that 0! = 1.

- Create a script to call your function.

- Create an end-to-end test for the function you created to test its correctness.

- Measure the execution time of computing 5!, 10!, 15!, 20!.

Re-design Lab2 Code

Re-write your lab 2 code by creating 3 functions

1. A function for the computation of the analytic solution;

2. A function for the computation of the numerical solution;

3. A function for the error between the analytic and the numerical solution – mean absolute difference;

4. A script that performs an exhaustive approach to define the maximum step size h;

5. Monitor the execution time required for the exhaustive approach and the one for your adaptive h step method.