

ASSIGNMENT 05: PLOTTING, SCHEMING EVEN

1. Let's go back to our square wave approximation from Assignment 2:

$$a_n = 2n + 1 \quad (1)$$

$$s = \sum_{n=0}^{\infty} \frac{\sin(a_n t)}{a_n}, \quad n \in \mathbb{Z}_{51}, \quad t \in [-\pi, \pi] \quad (2)$$

Plot the approximation along with the components superimposed in the same plot. Add a title, reasonable bounds for the x and y -axis, and ticks and tick labels for the x -axis.

2. Repeat the previous exercise but now plot the approximation in one subplot and all the components in another. Additionally, add a figure title with `sgtitle()`.
3. Plot the following surface:

$$\mathcal{S} = [-2\pi, 2\pi] \quad (3)$$

$$z = x \sin(x) - y \cos(y), \quad (x, y) \in \mathcal{S} \times \mathcal{S} \quad (4)$$

Extra: Plot the MATLAB logo!¹

¹<https://www.mathworks.com/help/matlab/visualize/creating-the-matlab-logo.html>