**CME3207**

**2020-21 Fall**

**Assignment**

For this lab assignment, you have to write a MATLAB code where you will display 4 graphs(2 rows x 2 columns). Send me this assignment to my email: gokmen@cs.deu.edu.tr

Graph1(top left): Plot a sawtooth wave with a fundamental frequency of 10Hz lasting for 2 seconds(Hint: MATLAB has a command for creating such a signal).

Graph2(top right): Plot the frequency spectrum of the signal in Graph1.

A sawtooth wave can be expressed as a sum of Fourier Series as follows:

Where is the fundamental angular frequency of the sawtooth wave.

Graph3(bottom left): Plot the sawtooth wave as a sum of n sinusoids(You can choose the value of n, but it must be larger than 5).

Graph4(bottom right): Plot the frequency spectrum of the signal in Graph3, just like you did in Graph2.

Remember to adjust the x-axis(frequency) limits so all frequencies of your components are visible. For the frequency plots, you can limit the values to 0 and 1.