

This is a lab for you to design a MATLAB class. This week we will only handle scalars of this class. We will extend the lab next week to handle arrays.

The MATLAB class to be implement in these two labs is called **Vec3**. Below are the tasks in this lab: assignment:

- The three properties are **x**, **y**, and **z**.
- The constructor: It should accept the following types of inputs:
  - No input argument (as a default constructor): A single object for point  $(0, 0, 0)$  is created.
  - Three input arguments (numerical scalars for now) for **x**, **y**, and **z** elements. The output is an object of **Vec3**.
- The **norm** function (for computing the vector length).
- The **inner\_prod** function. It takes two inputs of class **Vec3** and return their inner product as a scalar double.
- The **disp** function: Show the object in the form  $(x, y, z)$ .
- Operator overloading functions: **plus** and **minus**, which does addition and subtraction of two **Vec3** objects, respectively.

Keep what you do in this lab as a reference for next lab.