**MATLAB Programming NCTU Fall 2017 Assignment#5 due 2018/1/4**

For this assignment, you need to implement a MATLAB class called **`Point3`**. Below is a list of the tasks in this assignment:

- The three properties are **`x`**, **`y`**, and **`z`**.
- The constructor: It should accept the following types of inputs:
  - No input argument: A single object for point `(0,0,0)` is created.
  - Three input arguments: They should be numeric arrays of identical size. The output is an array of **`Point3`** with the same size as the inputs.
- The **`norm`** function (for computing lengths): It should generate an array with the same size as the object array.
- The **`disp`** function: Show the object array in the same way the MATLAB displays arrays. Each object has the form ***`(x,y,z)`***. For example, a 2x3 array can be displayed like

```
(1,2,4)    (3,4,6)    (10,-2,11)
(-1,5,5)   (0,6,0)    (8,0,-2)
```

  - Very good alignment is not required.
  - You only need to be able to display 2-D arrays.
- Operator overloading functions: **`plus`** and **`minus`**. The output is an object array. It should be able to handle these types of inputs:
  - Both inputs are object arrays of the same dimension.
  - One input is an object array, and the other input is a scalar object (any order).
- The **`eq`** function. The output is a logical array. It should be able to handle these types of inputs:
  - Both inputs are object arrays of the same dimension.
  - One input is an object array, and the other input is a scalar object (any order).
- The **`sum`** and **`mean`** functions, which should have the same behaviors as the same-named MATLAB functions. This means that a second input can be used to specify a dimension.

**Submission**: Submit your code (m file) through e3. There will be two weeks for each assignment plus a three-day grace period, during which there will be a 10%/day deduction for your grade.