MATLAB Programming NCTU Spring 2017 Assignment#5 due 2017/6/9

For this assignment, you need to implement a MATLAB class called **Point2**. The class slides contain a little bit of this class, but you need to extend it more, including the ability to handle arrays of objects. Below is a list of the tasks in this assignment:

- The constructor: It should accept the following types of inputs:
  - No input argument: A single object for point **(0,0)** is created.
  - One input argument: It should be a two-row numeric array, each column representing the x and y values of a point. The output is a row vector of **Point2** objects.
  - Two input arguments: They should be numeric arrays of identical size. The output is an array of **Point2** with the same size as the inputs.
- The **norm** function (for computing lengths): It should now 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)***. For example, a 2x3 array can be displayed like

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