MATLAB Programming NCTU Fall 2017 LAB#1 2017/9/18

For this lab, the goal is just to get familiar with some basic operations covered in the class. There are a few short practices. Notes:

- (1) **No loop** or anything like that is to be used.
- (2) Use only functions mentioned in the class so far, unless noted otherwise.

Practices:

- 1. Given any vector, convert it to a row vector.
- 2. Given any vector, convert it to a column vector.
- 3. Given a vector v of length 4 representing two fractal numbers, give the text output of its fractal sum:

Note: Use fprintf for this task.

- **4.** Compute 1/1 + 1/2 + 1/3 + ... + 1/999 + 1/1000.
- 5. Compute 1 + 1/1! + 1/2! + 1/3! + ... + 1/100!. (Note: cumprod is useful here.) Compare the result with exp(1).
- 6. Make nxn matrices (n given in a variable) that look like all zeros surrounded by a layer of ones. Example for n=5:

```
1 1 1 1 1
1 0 0 0 1
1 0 0 0 1
```

1 0 0 0 1

1 1 1 1 1