

OOP Assignment 4

Due: 11:59 p.m., 30 March 2016

Problem. Complete and test the function

```
int * const getVector(string line, int * dim)
```

based on the code of [2016-0323](#). Write input data into a string. Input a vector in the following format:

n (c_1, \dots, c_n), where n is the vector's dimension and (c_1, \dots, c_n) is the vector's value

For example, the vector $u = (2, 1)$ is represented by the string "2 (2, 1)"

Please complete the following list of tasks to solve the problem. Note that you must write unit tests in the test project.

T1. (40%) First, move all of your unit tests to a new header file (for example `ut.h`), include this file in the main program of the project `utDotProduct`. Second, include all unit tests from `homework2` and `homework3` into the `ut.h` file and pass all tests.

T2. (60%) Complete the function that extracts a vector from the input string and write six unit tests for it.

```
double * getVector(string line, int * dim);
```

(参考部落格文章寫 unit test: [Inner product, round 3: handling I/O](#))

Your `getVector` should return correctly when given the following strings

"3 (1,2,3)"

"1 (0)"

Your `getVector` must throw an exception when given any of the following strings:

"1 (1,2)"

"3 (1,2)"

"2 (1,2"

"-1 (1,2)"