Secure Software development: **Project 3**

Points Possible: 100
Deadline: 11:59pm Tuesday November 12th 2024

Goals:

- Develop acceptance tests for the specified black box.
- Write a function that repeatedly sums a number until a single digit is obtained.

Description:

You are to fulfil the customer needs. Write a function that repeatedly sums a number until a single digit is obtained. Provide test cases for the function.

Commands for unit test:
python -m unittest project3.py

Commands for coverage check:
coverage run -m unittest project3.py
coverage report -m

Programming Environment:

Python 3.
Python Package to install:
1. unittest
2. coverage

Requirements:

1. (5 points) **Use comments to provide a heading at the top of your code** containing your name, NCU StudentID, and e-mail.
2. (5 points) Your source code file should be named as "**project3_LastName_ StudentID.py**". (e.g. project3_Harn_982001510.py)
3. (40 points) Written Test cases in the word file.
4. (20 points) Collapse() function implementation.
5. (20 points) 100% coverage with no unit test errors.
6. (10 points) Usability of your program (Good Comment Practices).

You will **lose points** if you: do not use the specific program file name, or do not have a comment block on **EVERY** program you hand in. You will lose **at least 40 points** if there are compilation errors or warning messages when we compile your source code.

Deliverables:

- A heading at the top of your code contains your name, NCU UserID, and e-mail., and how to compile your code.
- Submit your **source code file** named as "project3_LastName_UserID.py" through the **eeClass** system.

Late Submission Penalty:

- After the 11:59pm on the due day, you can't submit your assignment anymore. Late assignments through e-mail will receive a 20% deduction per day penalty.

Rebuttal period:

- You will be given a period of 2 business days to read and respond to the comments and grades of your homework or project assignments. The TA may use this opportunity to address any concern and question you have. The TA also may ask for additional information from you regarding your homework or project.