SI 206 – Winter 2017 – PROJECT 1
(Building on HW1 & HW2)

Due: 11:59 PM, Sunday, January 29
Submit to Canvas:

- An edited version of `206W17-project1.py`
- An edited version of `206W17-project1-readme.txt`

We've supplied a code file for Project 1 (`206W17-project1.py`) which contains the code with a Card class definition and a Deck class definition like you saw before, which you wrote tests for in HW2.

It has some additions:

- A Hand class definition (which represents a hand of cards that are dealt from a Deck).
    - The Hand class requires a Deck instance as input, and has an optional input of a number of cards in the hand. (The default is 5 cards.)
- An example of a test of one of the methods in the Hand class.

There are 2 parts to complete for Project 1.

PART 1 – TESTS (800 points)

- Put the tests you wrote for HW2 in the Project 1 file. You're testing the same code! (100 points)
- Write at least 8 tests for Hand class methods. They should test at least 4 different methods of the Hand class. We've provided one sample test. There are no requirements for how simple or complicated the tests need to be. Anything works. (100 points per test)
- To gain credit for a test, it must:
    - Pass if the code is correct
    - Test something that could fail if the code were written incorrectly (e.g. testing whether 5 is equal to 5 cannot fail, but testing whether `self.cards_in_hand` contains a list value after you create a `Hand` instance is reasonable – what if the constructor does not work correctly and doesn't create a list?)
    - Use any assert method inside a test method, like `self.assertEqual`
        - Note that you will see an **ok** as long as the test does not fail or create an error, but you might still see an **ok** if you have NOT used any assert methods!

It may be easier to do this if you do PART 2 first, though.

PART 2 – DOCUMENTATION (700 points)

Write a text file of documentation for the code in the `206W17-project1.py` file. We have provided a file `206W17-project1-readme.txt`. You should edit this file to add content.

Your documentation file should include:

- (150 points) A brief description of what the code in `206W17-project1.py` does *overall*, and your idea about why it was written/what it could be used for.
- (150 points each) A brief description of each class that is defined in the file. If you were explaining it to someone, what would you want them to know? You should include:
    - An English description of what one instance of the class represents. (One short sentence is fine!)
    - What input is required for the class constructor, in order to create one instance of that class (and any optional input).
    - A brief English description of what each of the methods in the class definition does: what input they need, what they return/what effect they have on instance variables.
- (50 points) Turning in a .txt file

This assignment involves some creativity: there is not just one right answer! Your goal should be clarity. You may arrange this documentation in the file in whatever way you want. You may have multiple sections or headers, or not. It does not need to be particularly long, as long as each requirement is included. Most can be described in a sentence or two.

Make it documentation that you would like to have if you came upon this code file with no idea what it did or what it was for or how the code in it could be used. A good way to start this may be to look through the questions we looked at in lecture, play around with the code a bit, and try to understand it line by line so you can write a good overall summary in the documentation.

It will be graded upon whether you (a) include each listed required element and (b) if the information you provide is clear and correct.

e.g. If you include a description of the Hand class definition, but it includes some statements that are not true, like "the constructor of the class Hand requires no input," you will receive 75 points for that. If you only put, say, "the Hand class definition exists" but no description of what it represents, you will not receive any points for that.