# APS106 LAB # 5

*This lab will test your ability to declare lists, initialize lists, and compute lists using function calls.* ***Due: 11:59pm, Friday, March. 1ˢᵗ, 2019***

<u>QUESTION:</u> There are a variety of games possible with a deck of cards. For example, a deck of cards has four different suits, i.e. spades (♠), clubs (♣), diamonds (♦), hearts (♥), and thirteen values for each suit. These decks of cards all have different number of categories and each category usually has the same number of cards.

Now write a function that uses list ~~comprehension~~ and for loop to create a deck of cards. Each element in the list will be a card, which is represented by a list containing the category as a string and the value as an int. First, write a function called deck() that generates the deck of cards that contains all category in the categories list and each category should contain *number_of_cards_per_cat* cards starting from 1 to *number_of_cards_per_cat* as described in the doc string. You must follow the order of cards as listed in *categories* variable. If *number_of_cards_per_cat is* smaller than or equal to zero, *then* return an empty list.

Then write another function random_shuffle() that receives the list representing the deck of cards and return a randomly shuffled list but preserves the order of the categories. Your shuffled list should not be the same as the one generated from deck().

Finally, write a function reverse() that receives the list representing the deck of cards returns the list in reverse order.

<u>TO DO:</u> Download the file lab5.py, complete the functions inside according to their descriptions and upload your version of lab5.py to MarkUs.
***IMPORTANT: Do not change the file name or function names. Do not use input() or print(). Your file should not contain any additional lines of code outside the function definitions. Some example test cases are included in the docstrings.***

<u>HINTS:</u>
You can generate N random integers between 1 and Max with the following lines of code:
First, you should import the random library:

```
import random
```

then:

```
random.sample(range(1, Max), N)
```

return a list of N random numbers between 1 and Max