Python Assignment #4: Lists!

Key Idea:
- I can add and remove items to lists
- I can select any item or random item from a list

Packet 4 Videos:

Video 1: Shopping List   Video 2: Lists and Math   Video 3: Chopsticks

Scoring:

You need a minimum of 70 experience points to move on from this packet. How you choose to achieve that task is entirely up to you.

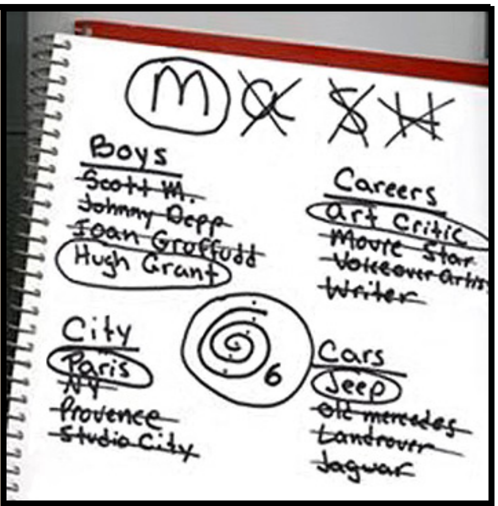
100 Points: A+
90 Points: A
80 Points: B
70 Points: C
Below 70 Points: F

Challenge #1: Have the user create a list of any size using what we know about appending lists. Have the program output the **Mean** of the list. Need an Example?

+20 Experience Points

+20 Experience Points

Challenge #2: MASH problem. Create 5 **lists**. Have the user **append** each one with their own choice of 3 houses, 4 jobs, 4 different family sizes, 5 cities to live, and 3 choices of pet. Print out a **random** result picking one of each as the user's new life.



Need an Example?

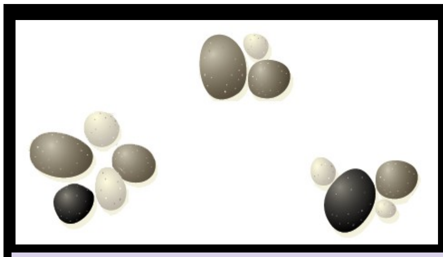
+30 Experience Points

Challenge #3: The   Mystery Box Challenge. We got a mystery program doing who knows what to every number we plug into it! Think you can figure out the pattern and code a replica? Here it is: **MYSTERY BOX CHALLENGE.**

Hints: You will need to use a list and create a way to systematically go through that list. Feel free to ask me additional numbers if you need help with the pattern!

+30 Experience Points

Challenge #4: Simon is a game where you try to remember sequences of colors and convince yourself you're having fun. You will choose random colors from a list and ask the user to repeat them back in order one at a time. However, unlike Simon they will not build upon the previous list. You will need to clear the screen so they can't just see. This should loop and you should give them one more color to memorize each time. **Full Game**



Challenge #5:
The Knights who say Nim!

+40 Experience Points

Nim is a classic game that you might not know. The rules are simple...take a handful of objects (pennies, stones, toothpicks, etc.) and divide them into several piles (the exact number of objects in each pile is not important). For instance:

Players take turns removing objects from the piles with the following rules:

a. A player may take any number of objects from a single pile on their turn (even the whole pile)

b. The player who takes the last object wins!

For this task start with the code below. This will set up the board! Your tasks are to add features that finish the game:

1. Inside the loop, add code that will get input from a player about their move (which pile to pick from and how many objects to remove).
2. Add code to keep track of which player's turn it is and switch appropriately. Use the provided displayPiles() function to show the player the current state of the piles.
3. Add code to print an awesome win message that praises the victor!

Here is an example if you need it!

Better yet, here is some starter code!!!

Want to play online?

Challenge #6:
Need a confidence boost? Maybe there is a cute girl/boy you want to ask out, the big game is tomorrow, or you're getting crushed in video games by your little brother for the first time. Create a program that will ask your name, then it keeps giving you random praise (by name) **selected from a list** until you let it know that you are feeling ready to go! Here is an example if you need!

+10 Experience Points