Junior Knights Assignments: Intro to Classes

Task A: Creating a Reading List:

In this task, we're going to make a reading list. This will be a good way to keep track of books you might want to read in the future. You will create a Book class to store the different attributes of books and methods that will use those attributes to provide the user information.

You are expected to implement this program in a menu system encased in a while loop. This is to continue practicing event handling from users, since that will be our main focus when designing games in Pygame.

The design of the system is up to you but the structure of the required Book class is described below.

Instructions:

- The class should have the attributes: title, author, and pages.
- In your constructor, make sure that you accept parameters for each attribute and set them properly.
- Write a method called "display_info" that will print out the details of the book in a reader-friendly format.
    - Ex:
      Title: The Great Gatsby
      Author: F. Scott Fitzgerald
      Pages: 218
- Write a method called "is_long_read" that checks how many pages the book has and prints a message stating whether or not the book is a long read.
    - If pages > 300, print "This is a long book!"
    - Else, print "This is a quick read."

Extras:

- You can make an attribute for the genre of the book.
- You can add an instance variable to the object indicating which page you are currently on (reading it). If you add this variable, then add a method called read(numpages) which "reads that many pages" from the book (updating the current page you are on).
- You can make an attribute to identify the book as one you have or haven't read.
    - Write a method "mark_as_read" that sets the read status to True and prints a confirmation message.

Task B: Implementing Statistics:

For last week's assignment, we created a game called Block Blaster where a player shoots blocks from the top of the screen. Something we can add to this game is statistics for the game. We can track the number of blocks destroyed, the number of blocks that were missed, shots taken, and the shot accuracy or efficiency throughout the game.

Instructions:

- You can use your own code from last week's assignment or use the posted solution on the Junior Knights website under Materials -> Python 2 labeled "block_buster.txt".
- Create a Stats class
- In the constructor, make attributes to store blocks destroyed, blocks missed, and shots taken. The constructor shouldn't have parameters.
- Write a method called "shot_accuracy" that calculates the shot accuracy of the player based on shots taken and blocks destroyed.
- Write a method called "display_info" that takes in the screen as a parameter and displays all the stats on the screen.

Extras:

- If you think of other stats to track/calculate, feel free to implement these and display them at the end of the game.