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Total time: 35 minutes work + 15 minutes coding review

Problem 1

Consider the `Point` class that was discussed in lecture and is defined below:

```
import math
class Point:

    def __init__(self, x, y):
        self._x = x
        self._y = y

    def translate(self, dx, dy):
        self._x += dx
        self._y += dy

    def distance_from_origin(self):
        return math.sqrt(self._x**2 + self._y**2)
```

Implement the following additional methods for Point:

`as_list()` returns the x and y coordinates of a `Point` as a list

`move_to()` resets the `x` and y coordinates of a `Point` to new `x` and `y` values

`__str__()` returns a string representation of a `Point` as `(x,y)`

Problem 2

Define a class called `BookData` that has the following attributes: a book title, a book author, and a book's average rating. In addition, implement the following methods:

`get_title()`	returns the title of a `book`
`get_author()`	returns the author of a `book`
`get_rating()`	returns the rating of a `book`
`__str__()`	returns a string representation of a `book` in the format `title: author : rating`

Write a program that prompts the user for a book title, author, and rating, creates a `BookData` object, and then saves the object in a list. When the user types "done" the program should stop prompting for information and print out the list of `BookData` objects and the average rating of all the books that were added to the list.

Problem 3

Define a class called `ClockTime` that keeps track of information about time as represented in a clock. Times are measured on the 12 hour clock scale where 12:59 PM is followed by 1:00 AM. The class should have the following methods:

`__str__()` for AM, returns the time in the format `hours:minutes AM`

for PM, returns the time in the format `hours:minutes PM`

`total_minutes()` returns the total number of minutes. If 4:12 PM were the time it

would return the following: 60 * 4 + 12 = 252

`tick()` advances the time by one minute

An example of using a `ClockTime` object follows:

```
>>> t = ClockTime(12, 58, False)
>>> print(t)
12:58 PM
>>> t.tick()
>>> print(t)
12:59 PM
>>>
>>> t.tick()
>>> print(t)
1:00 AM
>>>
```