Severance Chapter 14 Highlights
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- What do you need to know from this chapter to complete the coding assignment and the Final Project?

- Programs that need to process multi-valued input records more than once need to use some kind of data holder to hold each row of related data facts.

- A typical use case scenario: sort, report, sort, report, sort report.

- Custom Python data holder classes are convenient holders that contain a set of related data facts.

- These data holder classes are typically defined in common Python modules and imported by the programs that need them.

- In our coding assignment for Zelle Chapter 11, I gave you a data holder class that I created: the Country class in my_countries.py.

- For the next coding assignment, and for the Final Project, you will need to design and implement data holder classes yourself.

- Custom Python object types may be created as instances of custom classes.

- Classes (and their instances) have two responsibilities: To know (data) and to do (behavior).

- In this unit, we are concentrating on custom Python data holder classes.

- These are typically used to hold a row from a relational table (or a record from a file) while in program memory.

- In terms of responsibilities, they have heavy data responsibilities and light behavior responsibilities.

- As an alternative, we might use a list or tuple to hold these data.

- Yet, custom data holder classes and their objects provide significant advantages over generic containers like lists (see demo).

- Other solutions to holding data records include Python dataclasses and pandas DataFrames (see links in *Other Resources*)

Severance Chapter 14 Demos

- See link to demo project in *Other Resources*.

- Demonstrate that a data structure based on the Python list could provide much of the functionality in *my_basic_states.py*.

- Lists are mutable like data holder classes.

- But, lists require that we access data with index expressions rather than field names.

- And, lists can't provide a standard means to derive values like the method *calculate_total_area_in_square_miles().*

- Also, lists can't provide any of the error checking that we put into the implicit setters in *my_evolved_states.py*.