Week 4 Essay Question

CSE-682 SOFTWARE ENGINEERING

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Question

In a library information system that you are tasked to design, a book is defined by the following statement:

"A book is composed of a number of parts, which in turn are composed of a number of chapters. Chapters are composed of sections." Describe the class diagram that you may draw for this system, focusing on classes and relationships.

There are four classes in the library system: Book, Part, Chapter, and Section. The verb "composes" infers ownership. When thinking about a book and its parts, it makes sense to say that a book has a number of parts. If the instance of the book class is destroyed, so are its parts. Therefore, the book class composes instances of the part class (composition). The same relationship exists between the part class and the chapter class and between the chapter class and the section class.

Composition is represented by a solid (filled) diamond.