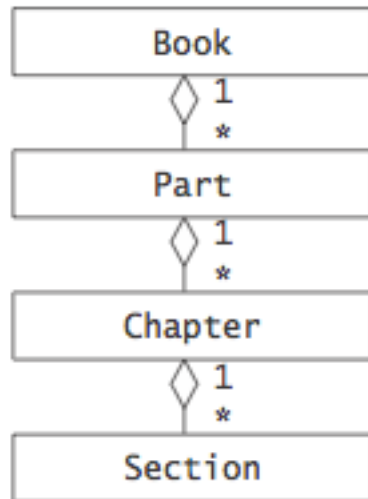


Week 5 – 01 Exercise Answers.

1. Draw a class diagram representing a book 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.” Focus only on classes and relationships.



This exercise checks the student’s understanding of basic aspects of class diagrams, including:

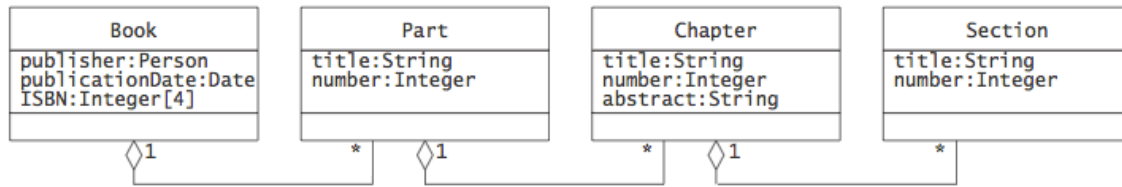
- Classes are represented with rectangles.
- The attribute and operations compartment can be omitted.
- Aggregation relationships are represented with diamonds.
- Class names start with a capital letter and are singular.

2. Add multiplicity to the class diagram you produced

See Figure above. Aggregation does not imply multiplicity, thus the 1..\* multiplicity is necessary.

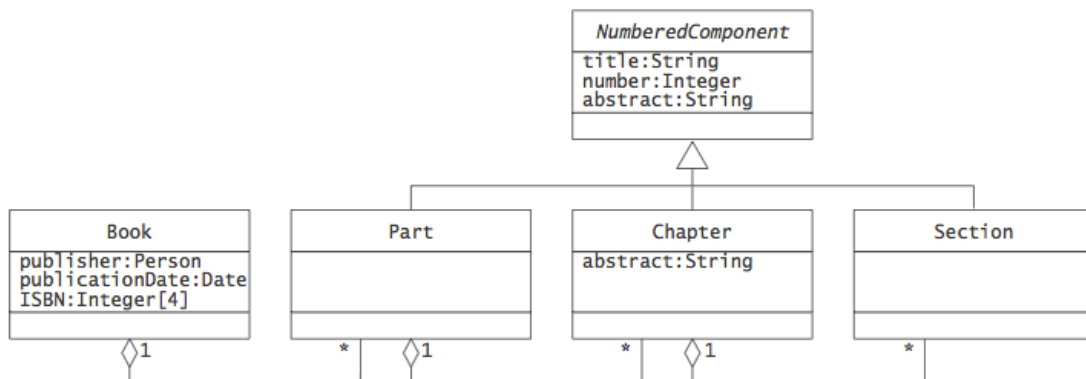
3. Extend the class diagram of Exercise 2–6 to include the following attributes:

- a book includes a publisher, publication date, and an ISBN
- a part includes a title and a number
- a chapter includes a title, a number, and an abstract
- a section includes a title and a number



This exercise checks the student's knowledge of attributes and their representation in UML

4. Note that the Part, Chapter, and Section classes all include a title and a number attribute. Add an abstract class and a generalization relationship to factor out these two attributes into the abstract class.



This exercise checks the student's knowledge of abstract classes and inheritance.