

Homework 5

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11.1

architectural
functional attributes
quality attributes
similar programs
conceptual model
design pattern

11.2

- a) L
- b) M
- c) P
- d) L
- e) M
- f) M
- g) M

11.3

A **class diagram** may be used for specifying the decomposition in mid-level design. It can also be used to specify some responsibilities of classes, in terms of operations and attributes, and the relationships within classes, specifying associations. Class diagrams can also be used to specify visibility of items of a class.

Component diagrams can be used to help specify interfaces, and mid-level decomposition.

Activity diagrams can be used to specify data flow, control flow and process synchronization, specifying collaborations. It can also be used in low-level design to specify algorithms.

Package diagrams can be used to specify packaging in low level design.

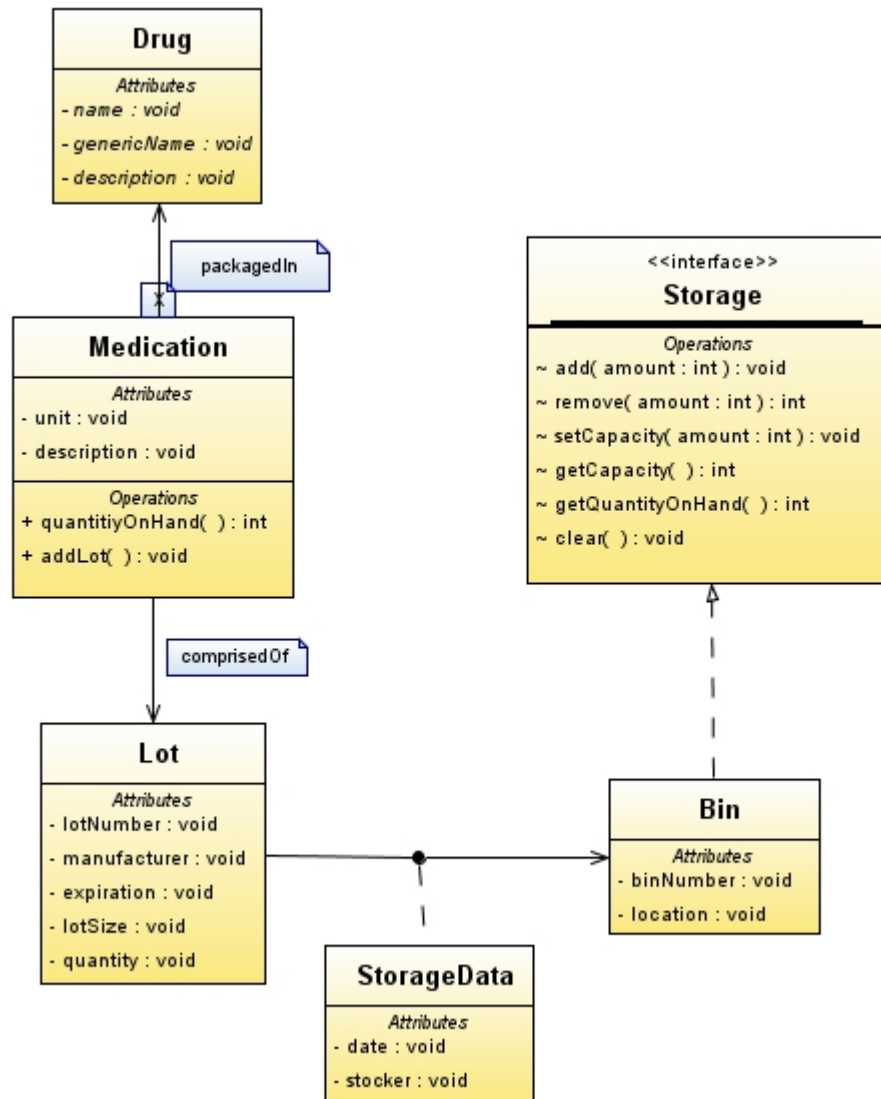
Box-and-lines diagrams can be used to specify mid-level decomposition, and some dynamic behaviors (collaborations) such as calling relationships, message passing, process synchronization, etc.

Text can be used to specify many parts of the detailed design, specially properties, collaborations, responsibilities and relationships.

11.4

Errors:

- 1 - There is no visibility marks on association names (comprisedOf)
- 2 - If a interface has an association class, its name is the name of the association class. It is not named separately (storeIn)
- 3 - Interface stereotype is written as <<interface>>, not as {interface}
- 4 - There is no navigability markers on a generalization (between Bin and Storage)
- 5 - And the class Bin must use a *realization connector* to indicate that it realizes the interface, not a *generalization connector*.



Comments:

- 1 - Netbeans doesn't let us suppress attribute types or operations and attributes compartments.
- 2 - Netbeans doesn't let us suppress operation visibility markers - package visibility is the default
- 3 - I couldn't find a way to represent non-navigability on Netbeans (packagedIn association). So I represented it as a comment.

11.5

B, C, D, E, G, H