Object Oriented Programming – Design

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Outline

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4. **Polymorphism** – An object can simultaneously belong to multiple classes, yet still act as itself. For example, if we know how to find the volume of a sphere, we can also find the volume of a basketball.

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2. **Loose Coupling** – Objects can use each other, but all code should depend upon only the public facing interface of an object. Keep the internals of objects on a strict "need to know" basis.

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8. Identify relationships among classes.

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- Lines between objects show that they are contained within each other.

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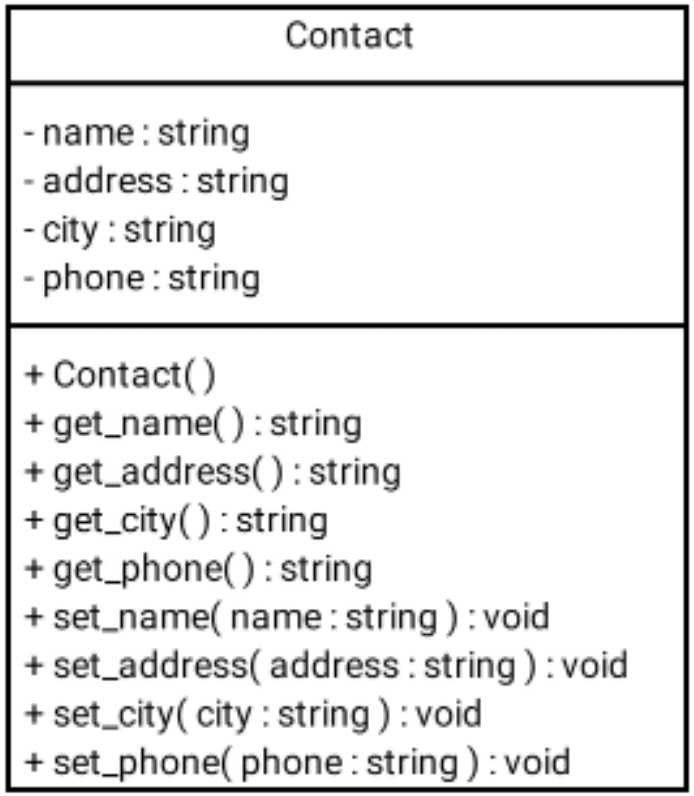

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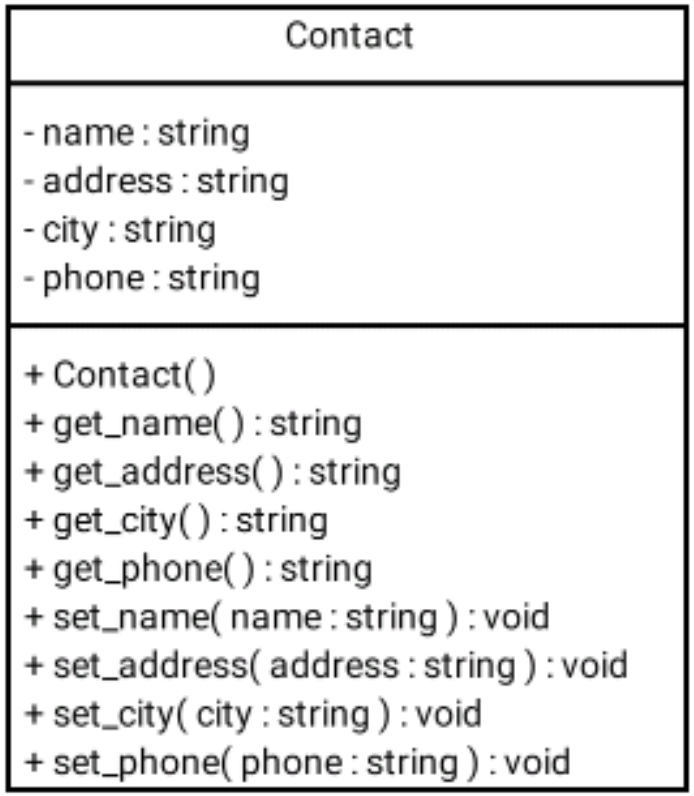

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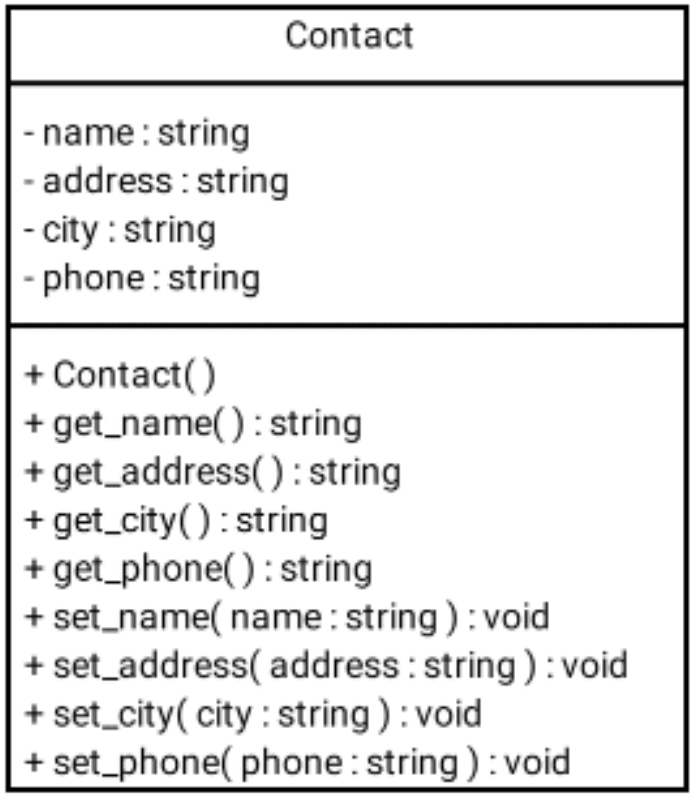

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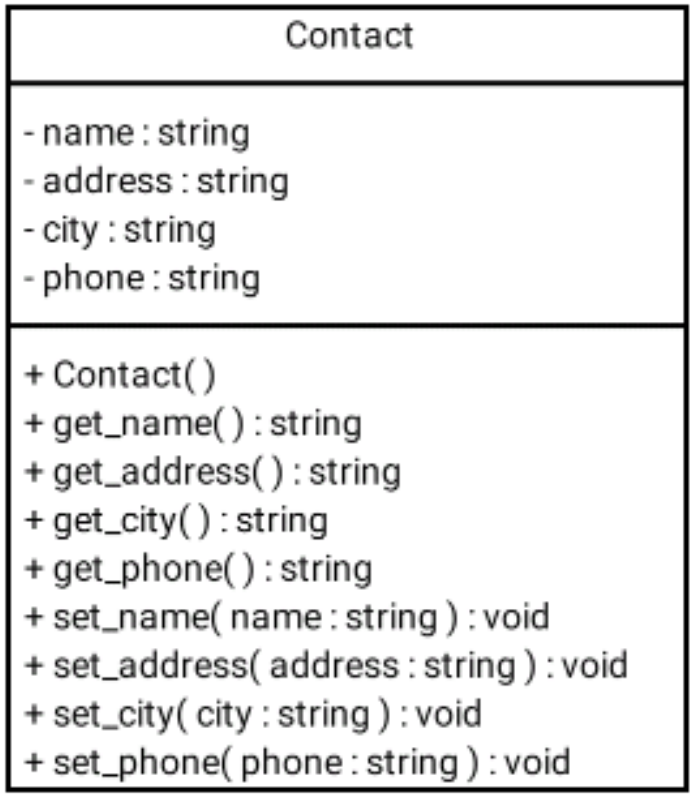

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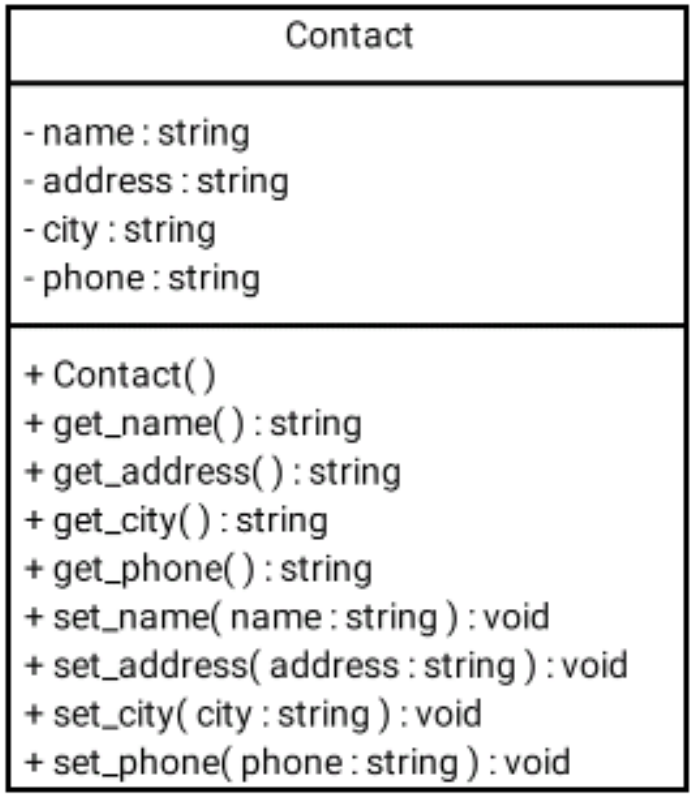

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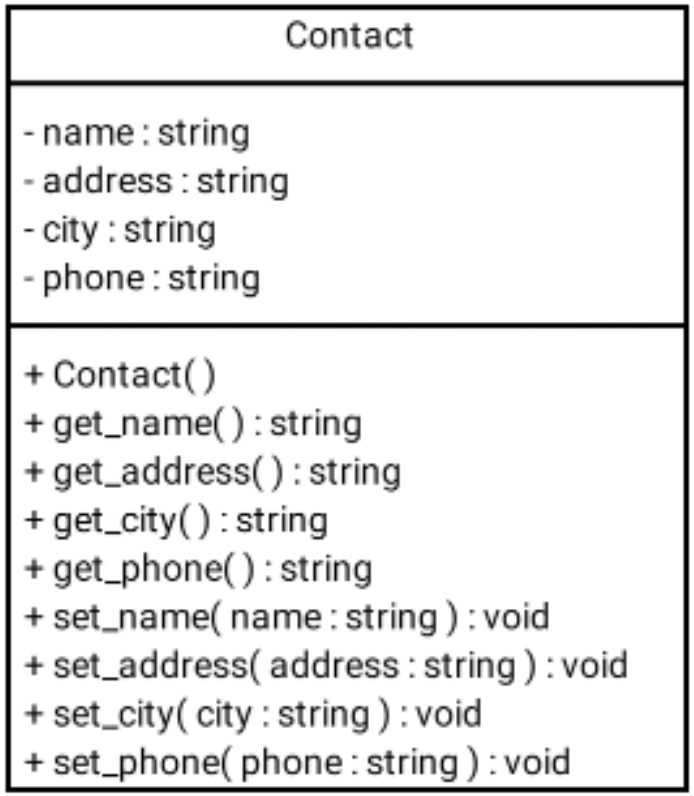

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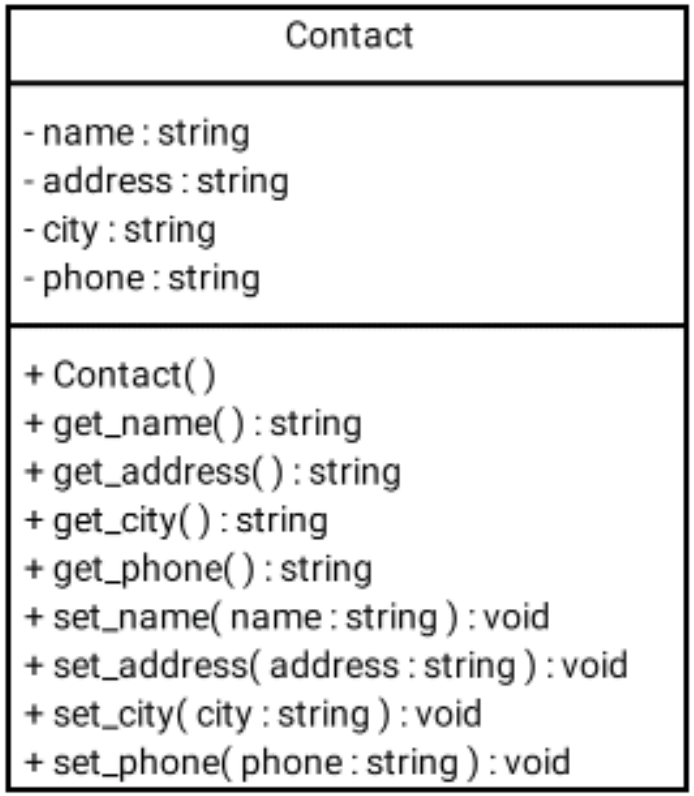

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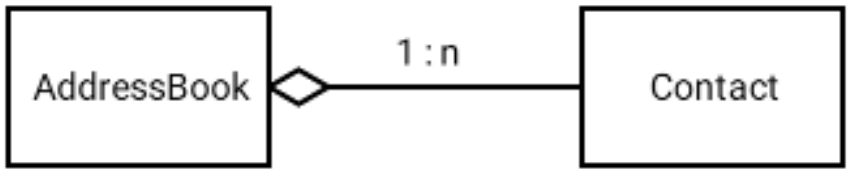

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7. Identify composition and aggregation relationships.

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- Why go to this level of trouble?
- This allows us to control/validate values and also make some attributes hidden and/or read only!

Class Activity: Design an Address Book

- What sorts of thing do we want to do with an address book?
- What do the contact records look like?
- What do these things do with each other?
- Construct:
  - Object Diagram
  - Class Diagram
- What relationships exist between the classes?

Outline

The Stock Program (Program 5)

- Play with the stock program solution and read the program specification.
- Draw an object diagram.
- Draw a class diagram.
- Identify relationships.