

Reuse at Design Level: Design Patterns – III

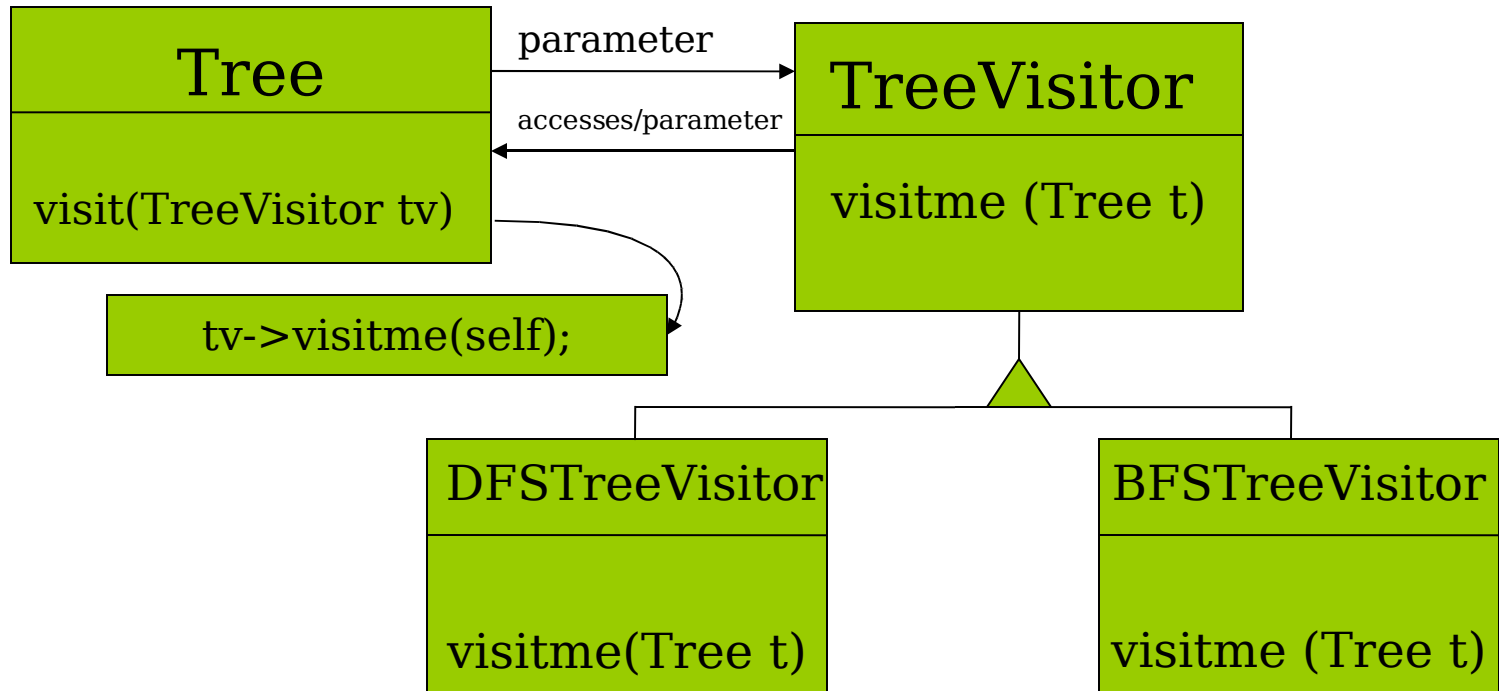
CS 617- Lecture 19
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3:30-5:00 pm

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A Problem: modeling of operations such that they can be externally added to a class

- ❑ You have an existing class that is ready to accept new operations
- ❑ A new operation can be plugged in by means of an external object which can handle such a new operation
- ❑ For example: Class Tree has operations to form a tree and a plug point through which new operations can be added

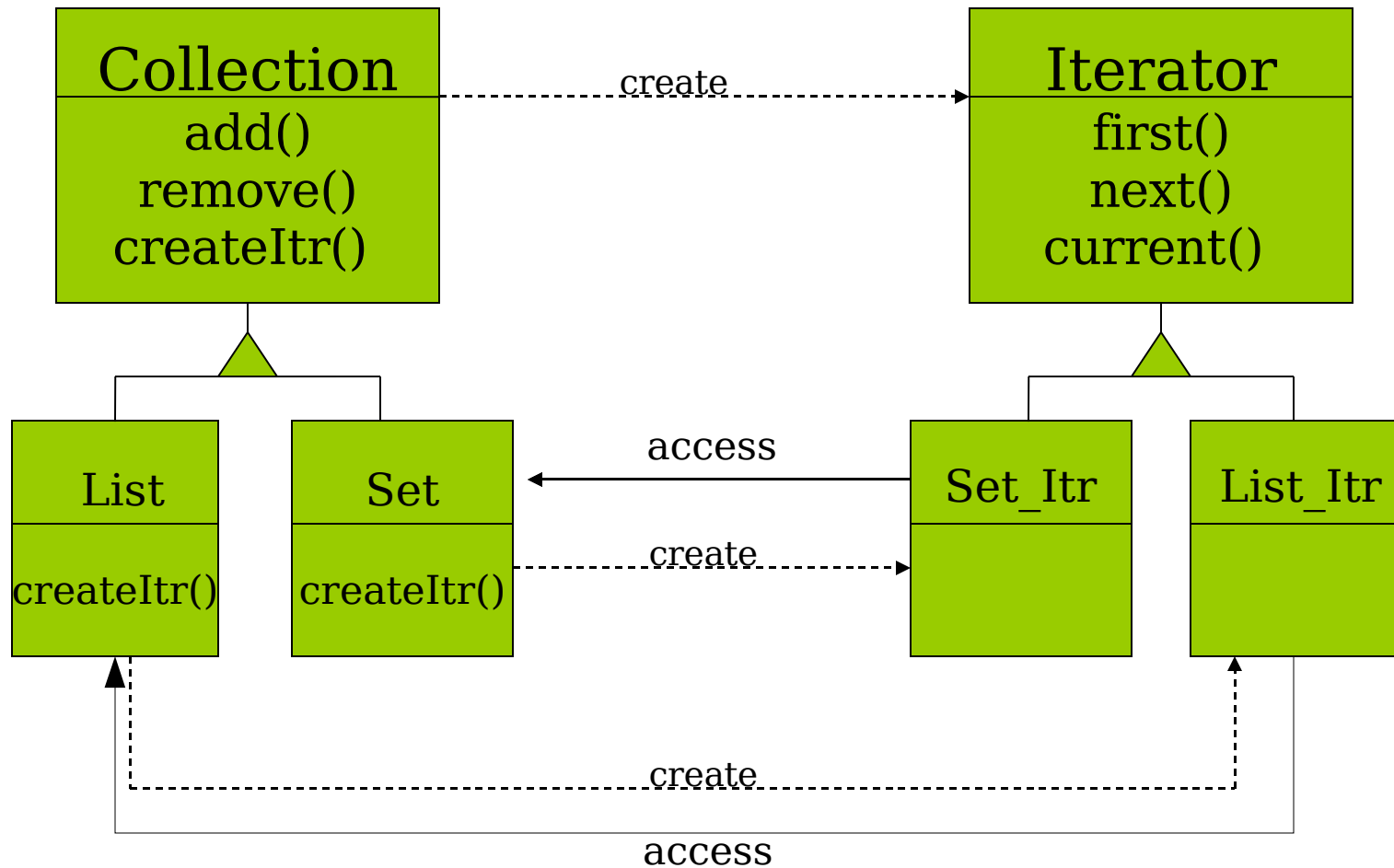
Example: Visitor Pattern



A Problem: Separate collection and iterations over the collection

- A collection supports members to add and remove elements, to check for membership
- Iterations over the collection can be specified separately such that the two abstractions are not intermingled
- The iterator hides the internal implementation of the collection
- Multiple ways of iteration can be supported
- Iterators can be used concurrently

Iterator Pattern



A Problem: Separate construction of objects from their representation

- E.G. transforming from one representation into another
- A transformation function for each component
- Finally you can obtain the whole transformed representation

Builder Pattern

