

# Modules and Traits

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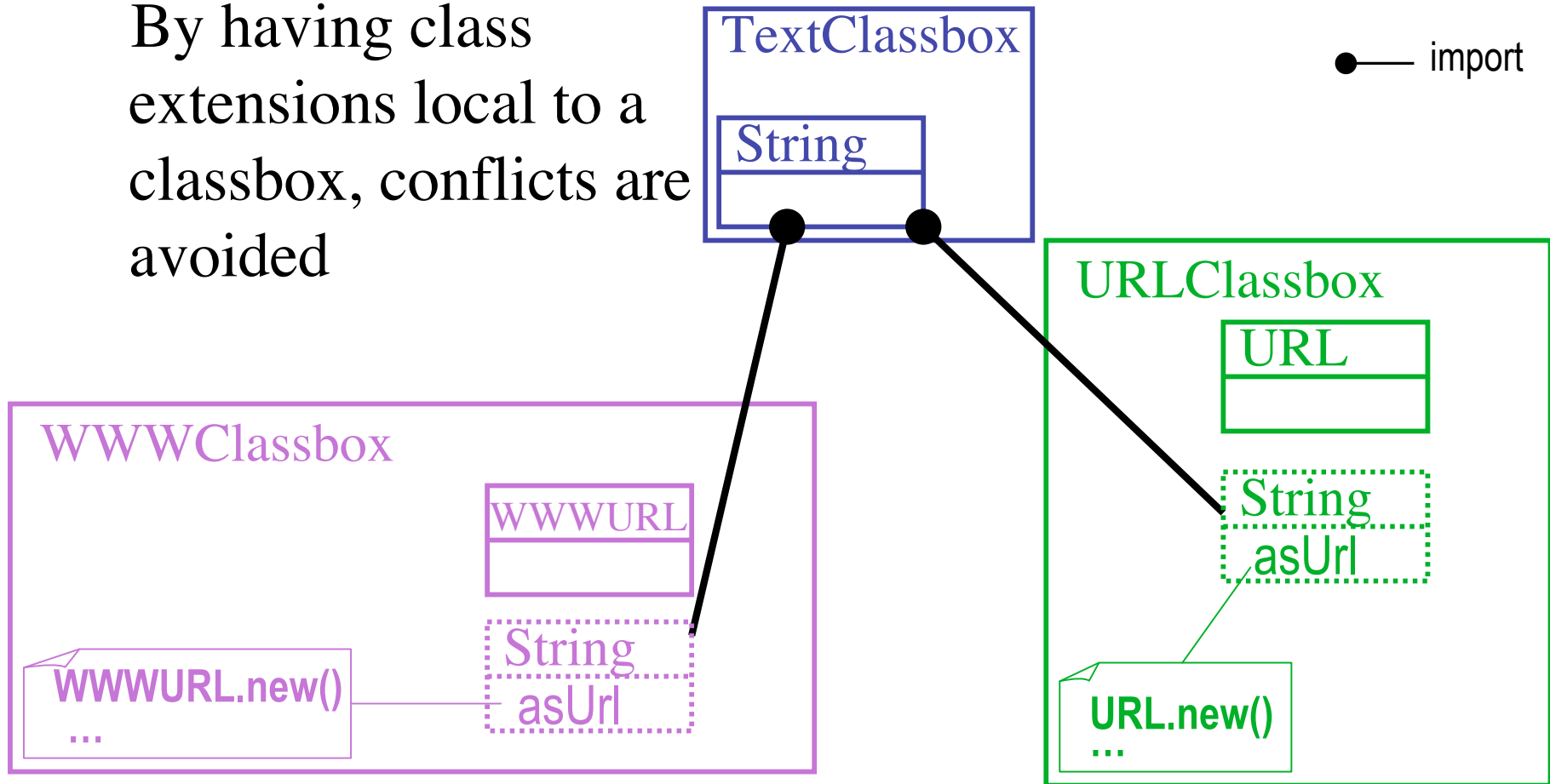
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# The Classbox Model

- The Classbox Model is a minimal module model supporting local class extension
- **Supports unanticipated changes**
- A Classbox
  - Is a unit of *scoping* (it acts as a namespace)
  - Can define *classes*
  - Can *import* class definitions from other classboxes
  - Can define *methods* on classes in the scope: **class extensions**
- Visibility of each element in a classbox is bound to this classbox

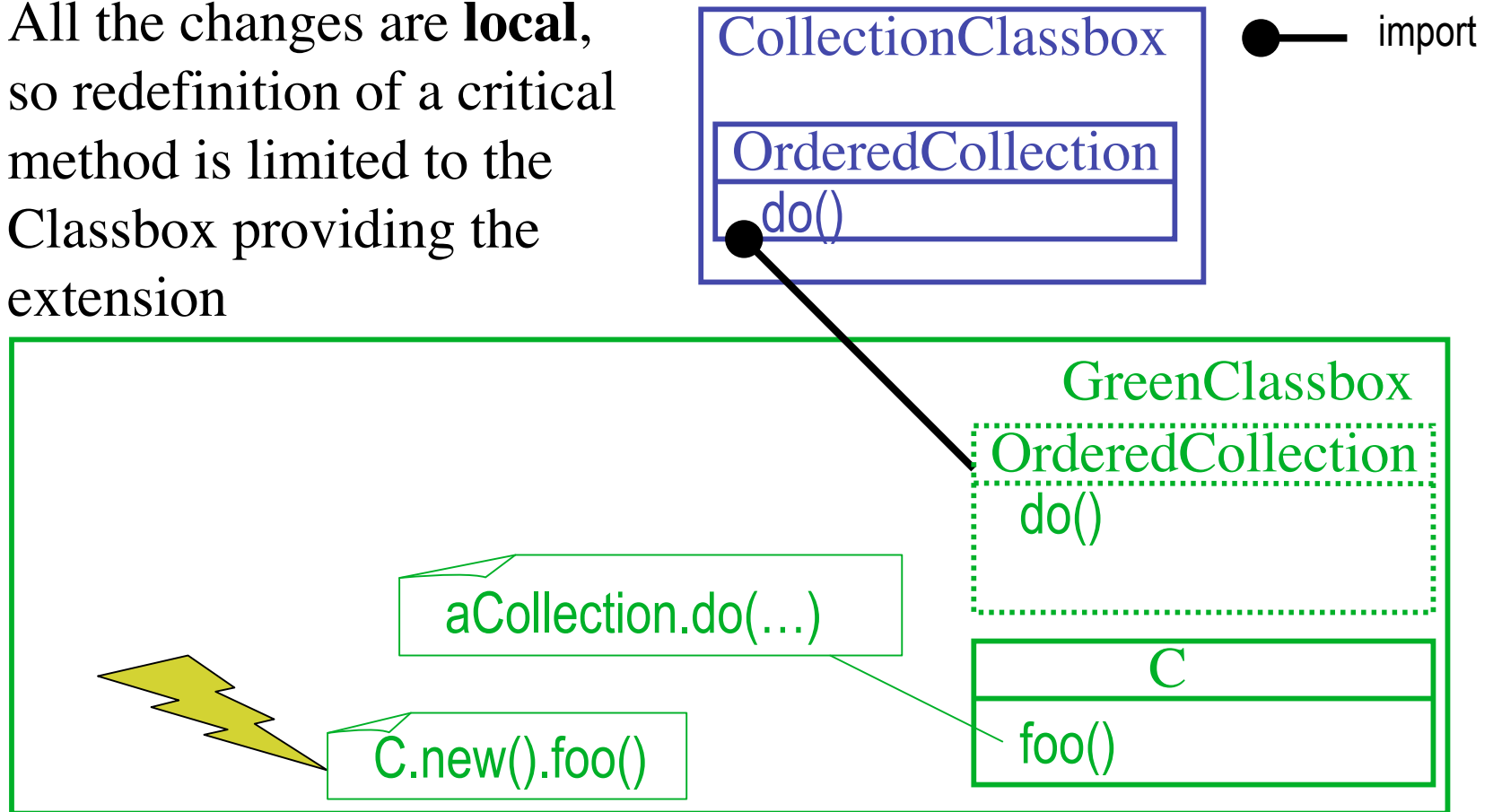
# Avoiding Conflict

By having class extensions local to a classbox, conflicts are avoided



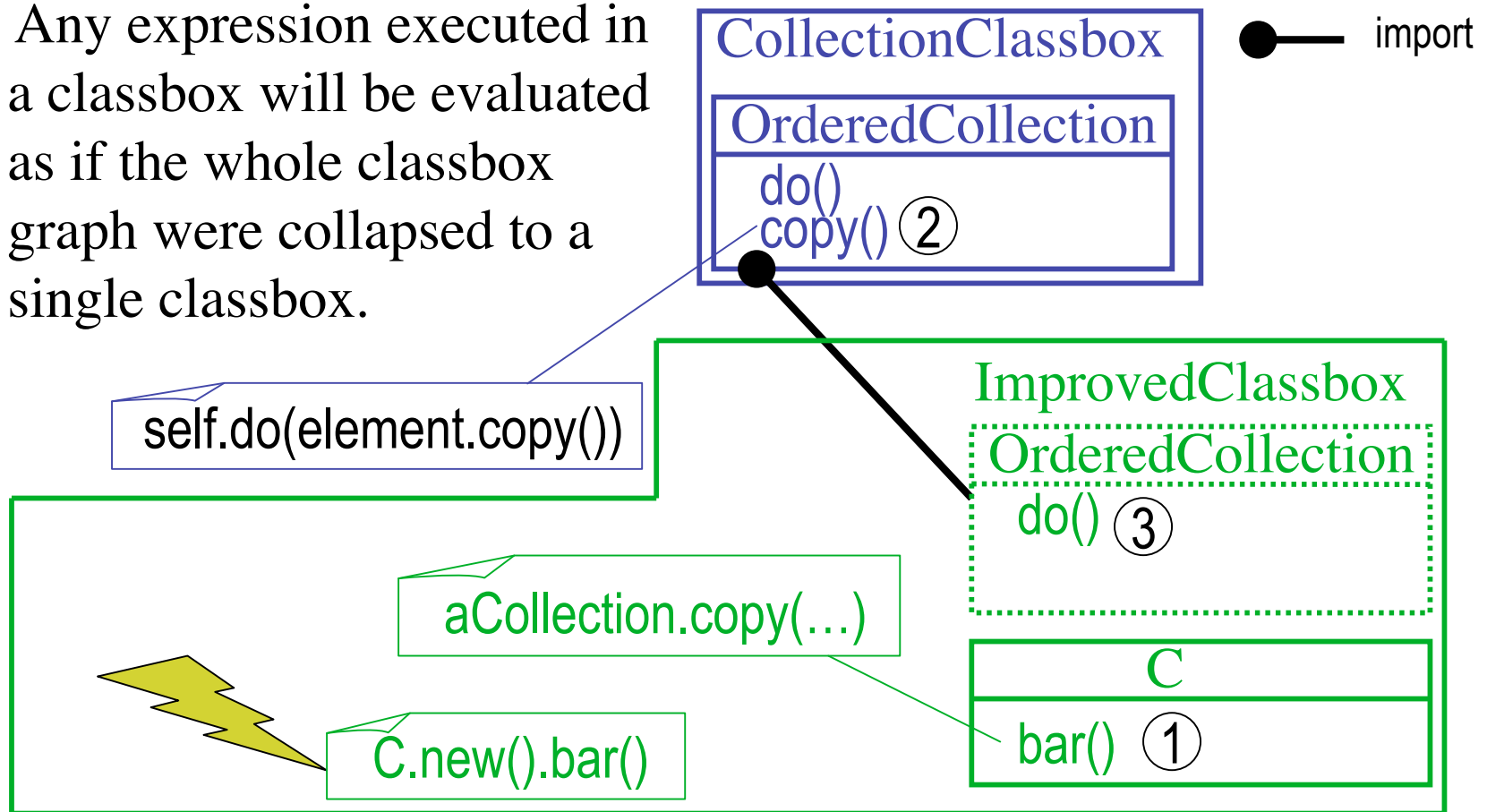
# Method Redefinition

All the changes are **local**,  
so redefinition of a critical  
method is limited to the  
Classbox providing the  
extension

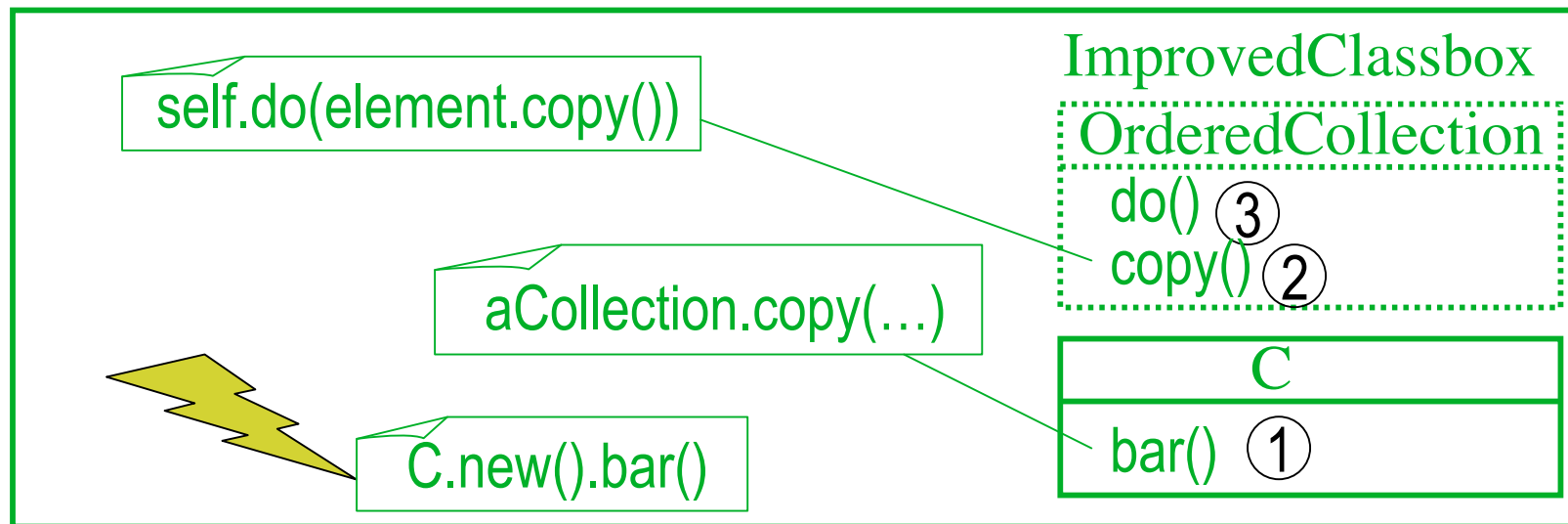


# Flattening Property

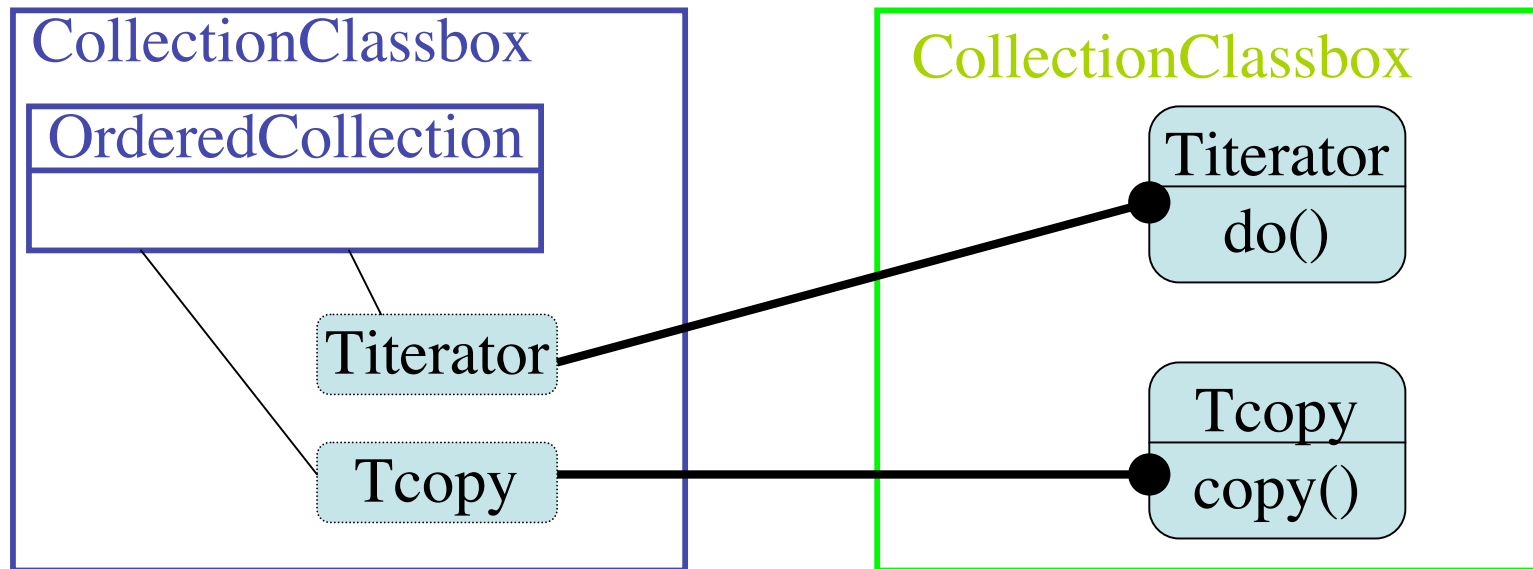
Any expression executed in a classbox will be evaluated as if the whole classbox graph were collapsed to a single classbox.



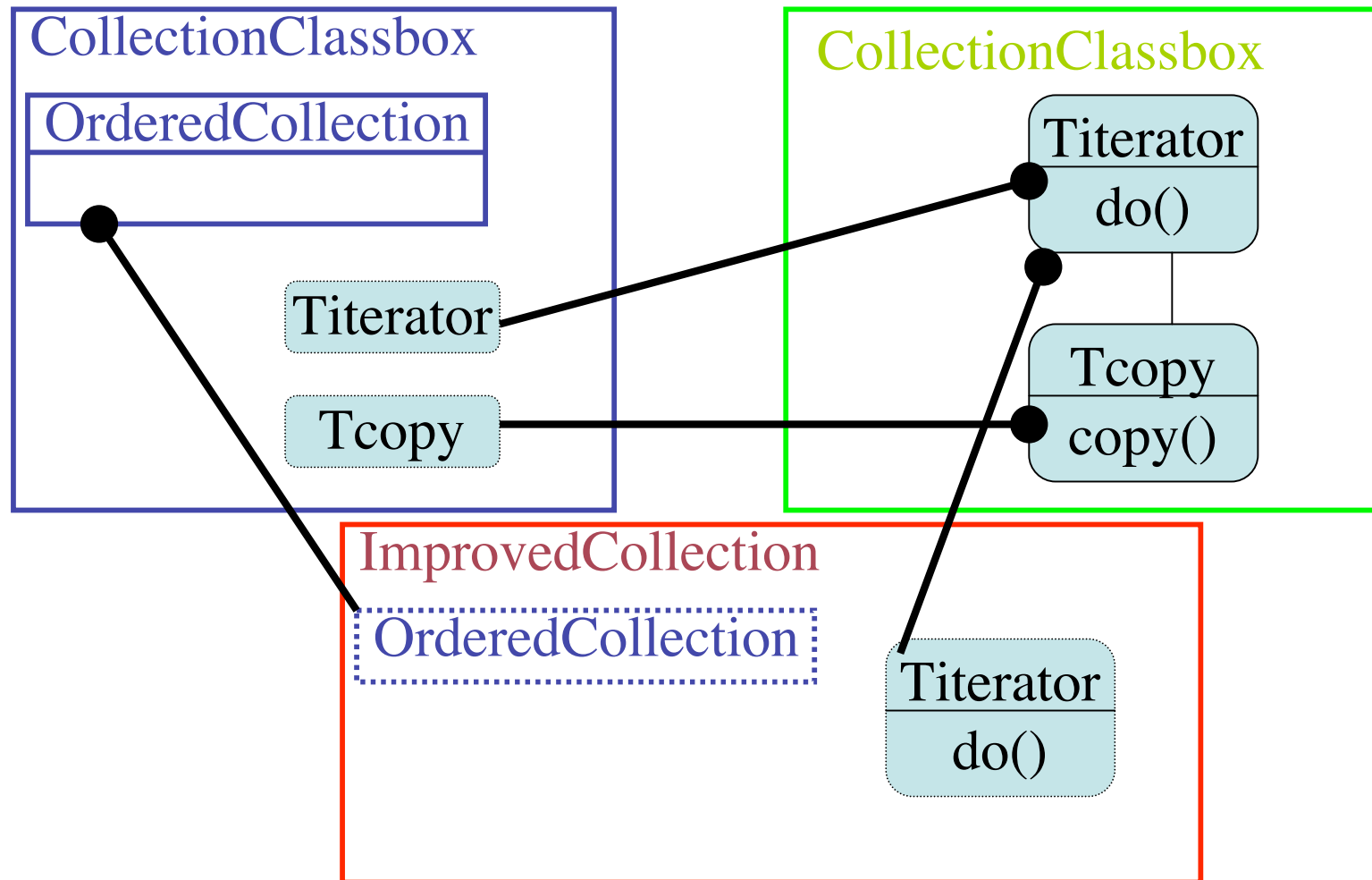
# Window on the World



# Traits and Classboxes



# Traits and Classboxes





# Dynamic Classbox

- Loading/unload at runtime
- Adding state
- Hot-swapping:
  - One classbox by a new one
  - Splitting one classbox into several