

the
limit getter & setter use
unless necessary

design methods based on
intended actions rather
than raw data manipulation,
ensuring objects maintain
control over their internal state.

Author's
recommendations

1. Encapsulation
violation

Encapsulation principle of hide object's data & expose only necessary
functionality

Issue: Getters and setters expose internal details.
↳ providing access to internal state; object's abstraction layer
is broken, allowing external classes to misuse data

Increased
coupling

Problem: When one class directly interacts
with another's data, it creates
dependencies (coupling).

Issue: ↑ coupling → harder to change internal
state while changing an internal
structure requires dependent classes
to be updated
↳ violate the modularity

Promotes poor
abstraction

Required
Expected for coop: object should provides
abstracted methods that don't reveal
implementation details

Issue: QA's methods encourages
"data-focused" rather than
"behavior-focused" objects
↳ in some cases, objects just
contain data with minimal
functionality

Alt Alternative: Access methods that
encapsulate the intended actions
eg: withdraw(), deposit()

Consequences of getters & setters

Maintainability issues:

overuse of getters & setters
can lead to code that's harder
to maintain & more error-prone

Lack of object
integrity

direct access through setters can leave
objects in an inconsistent state
if fields are set inappropriately

Code quality

excessive getter & setters can lead to
"anemic" classes that have no real
behavior, diminishing the OOP
object-oriented design quality