A craftsman's guide to designing clean architecture

Marcus Biel, Software Craftsman

Moscow | 7. April 2018

JPoint

About me

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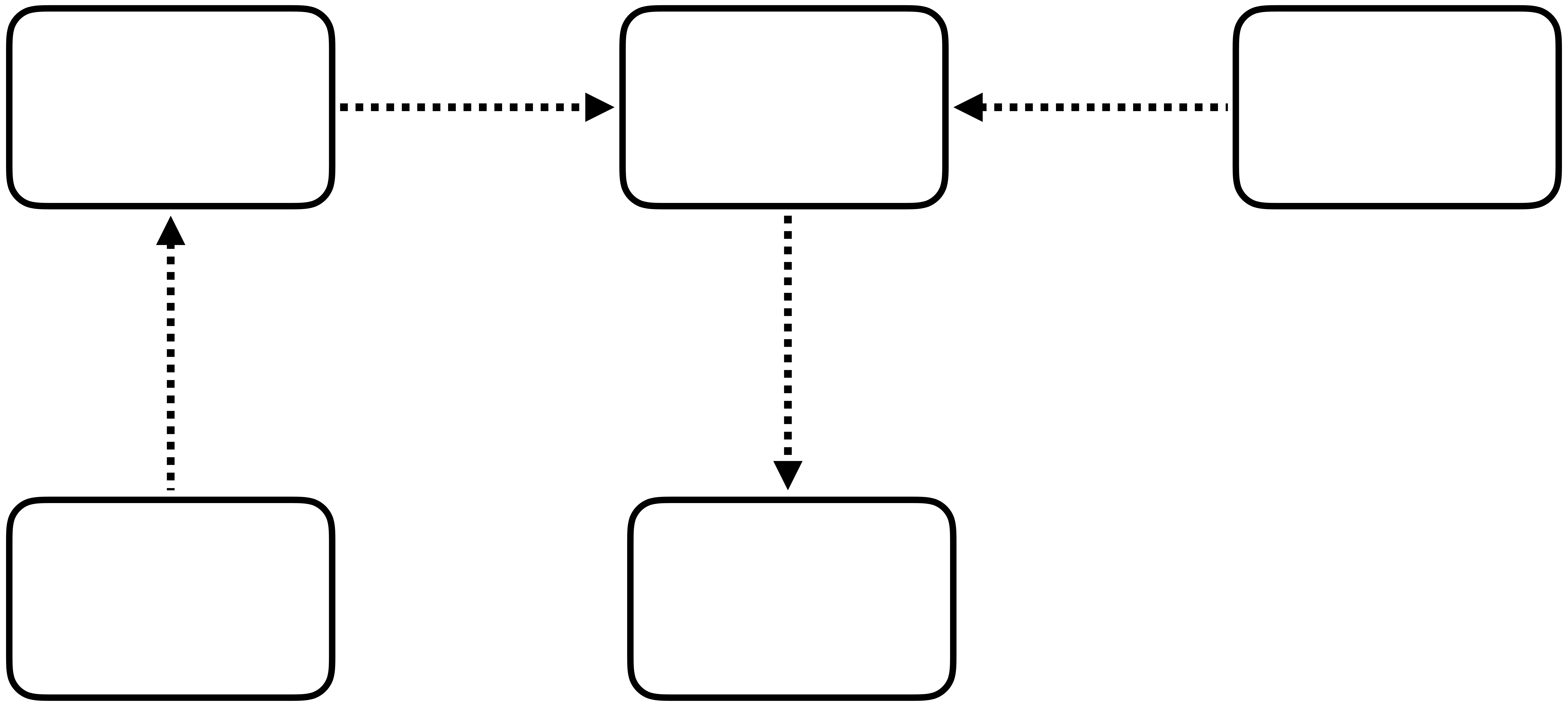
Defining a Clean Architecture



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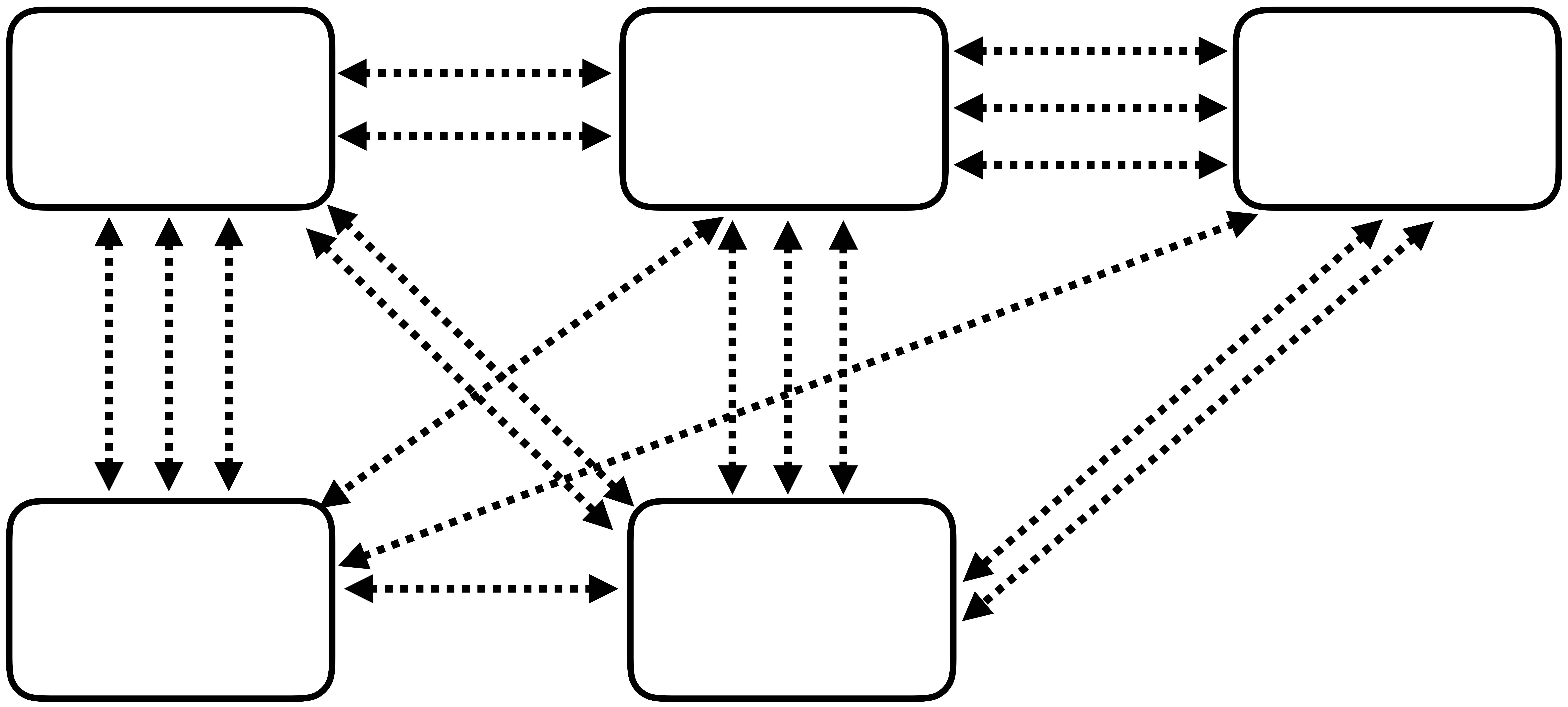

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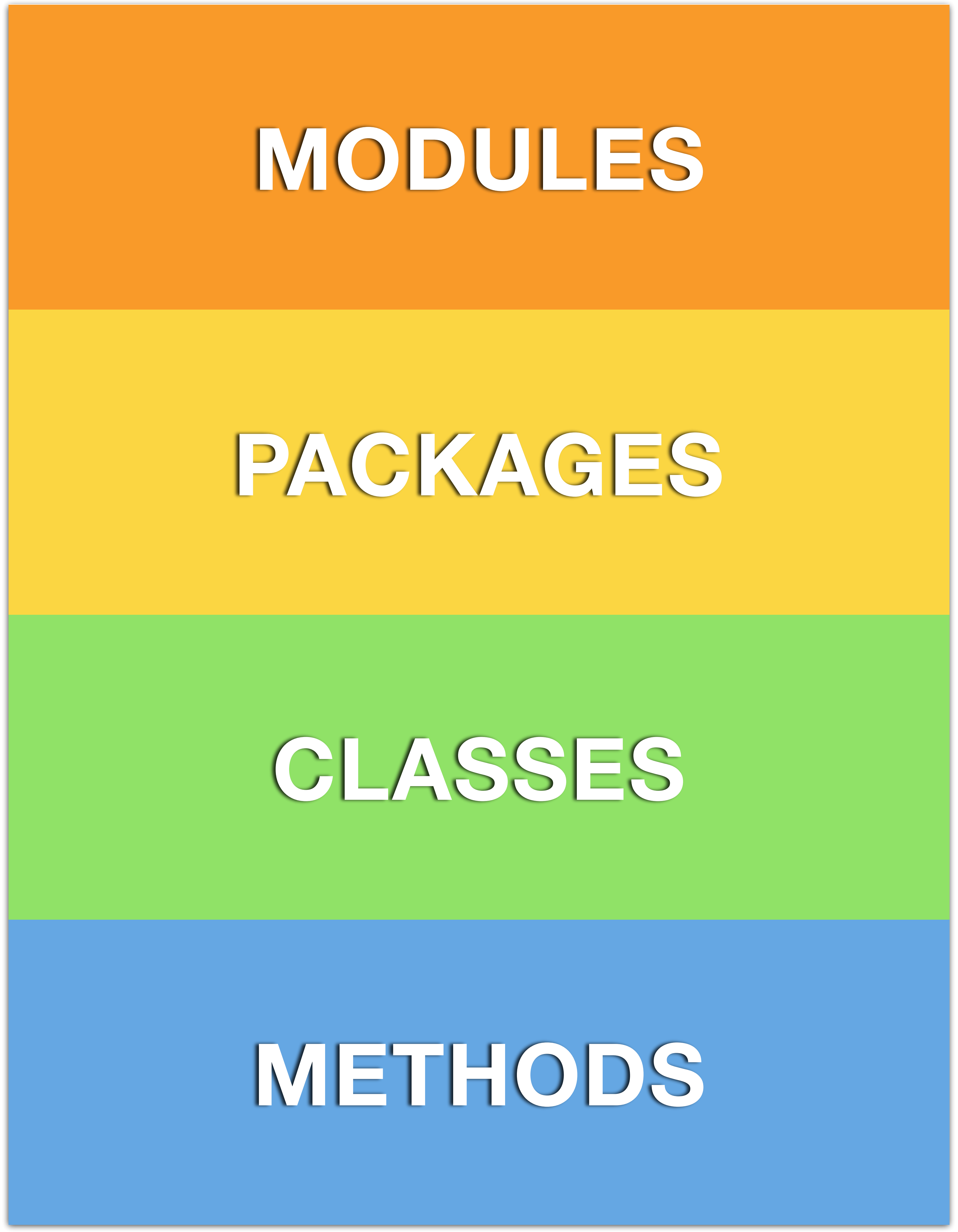

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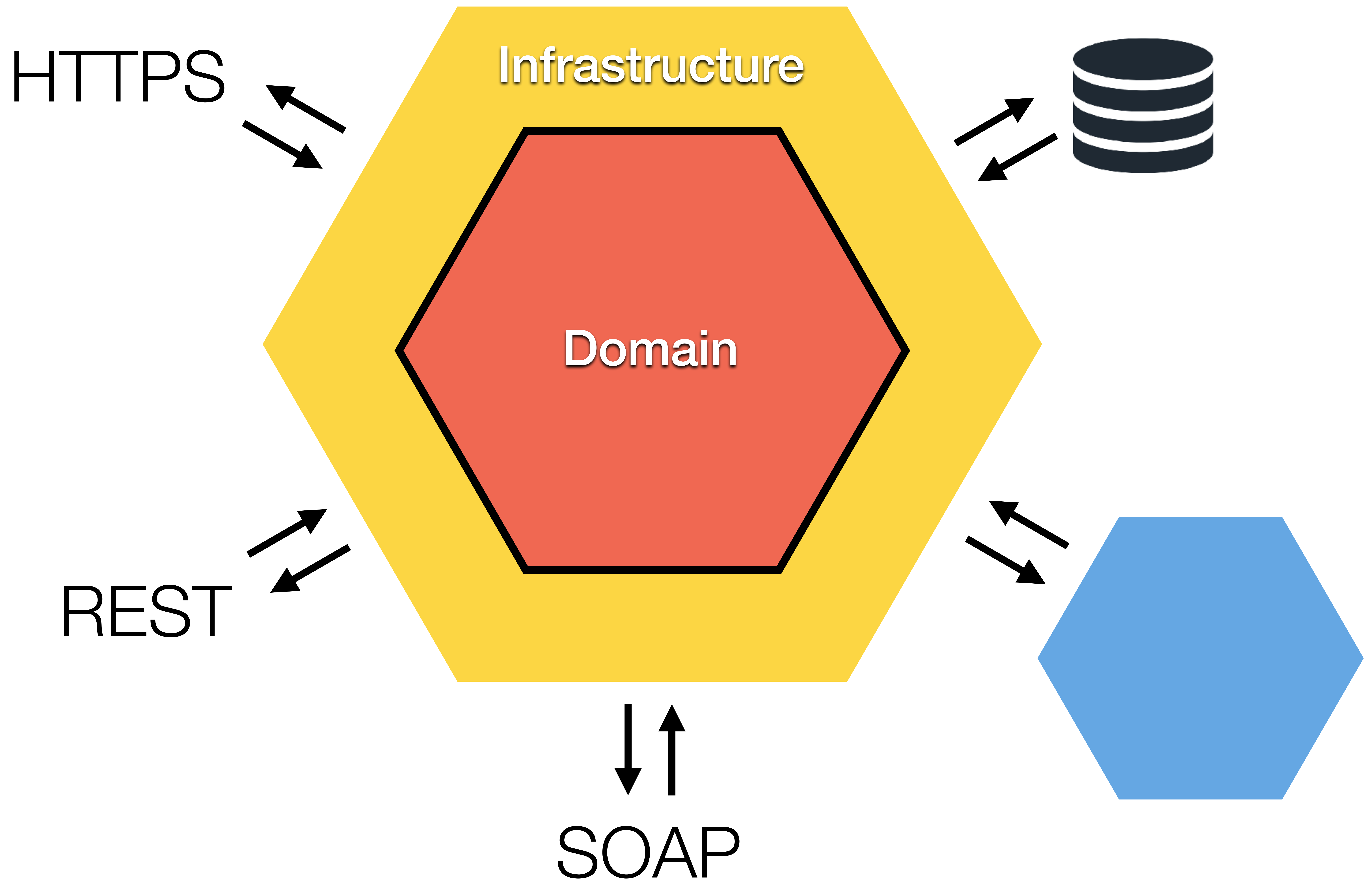

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Foundation of a Clean Architecture

- **Coupling and Cohesion**
- Other Building Blocks

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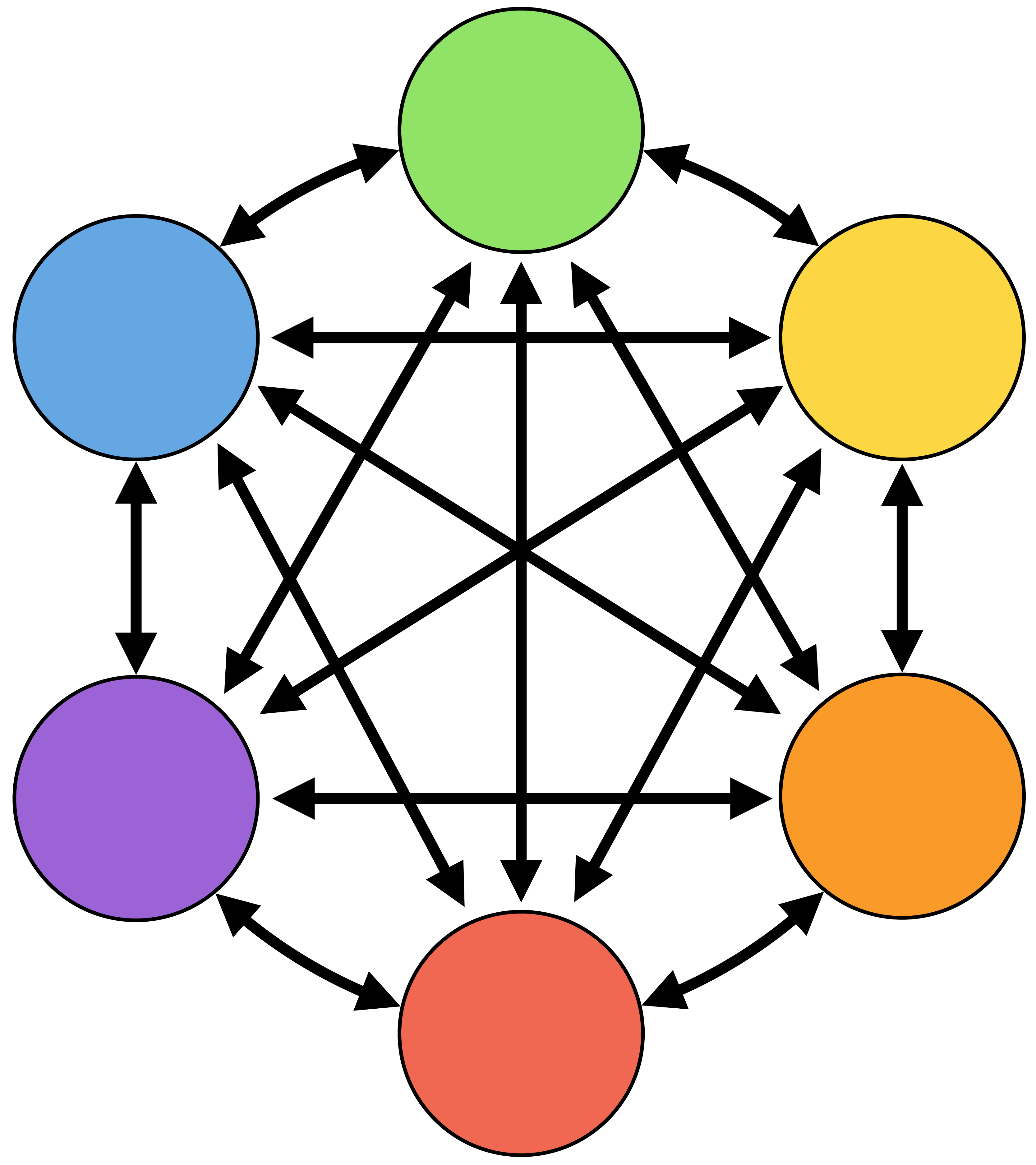
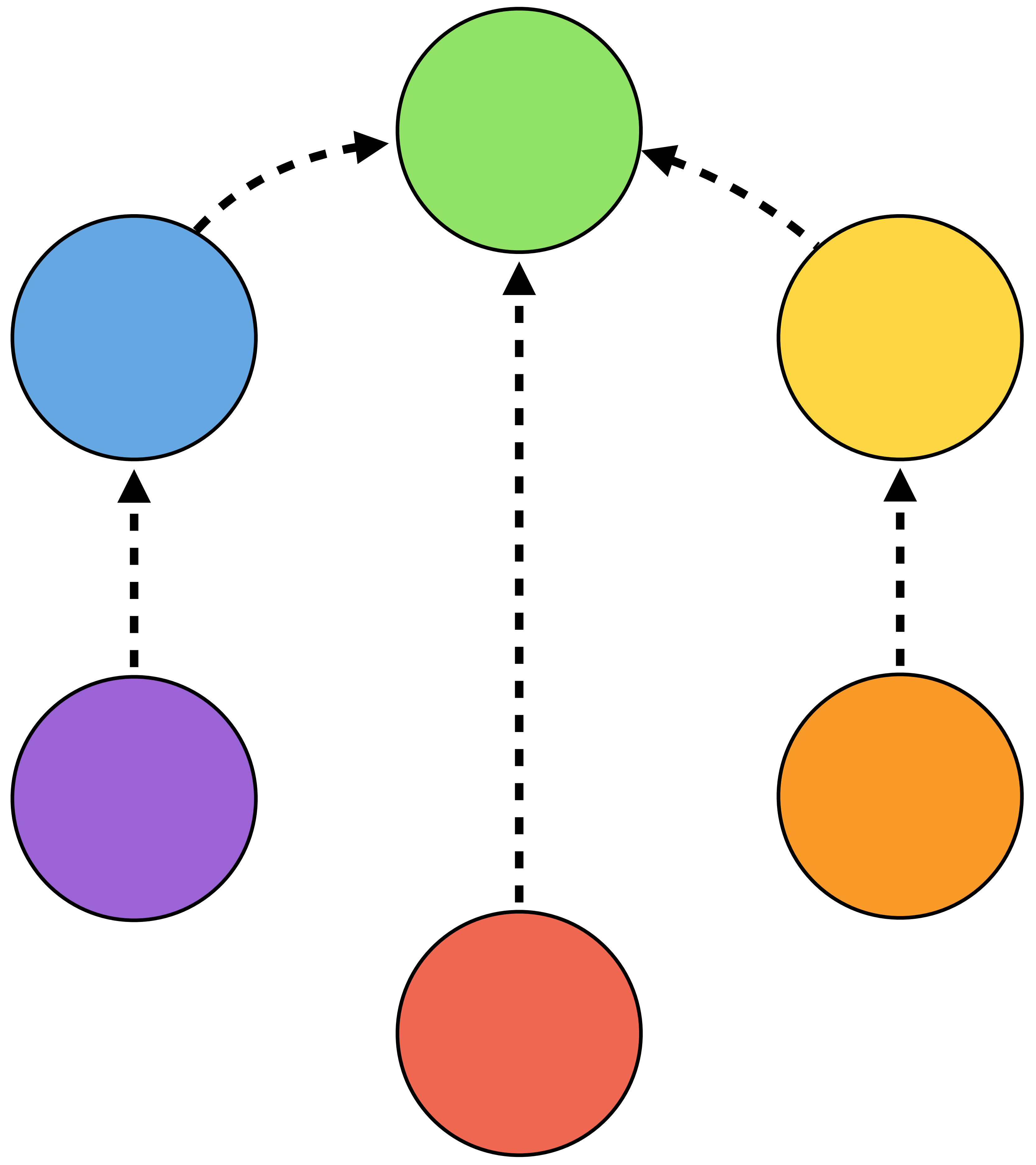
Defining Coupling


Tight Coupling


Loose Coupling

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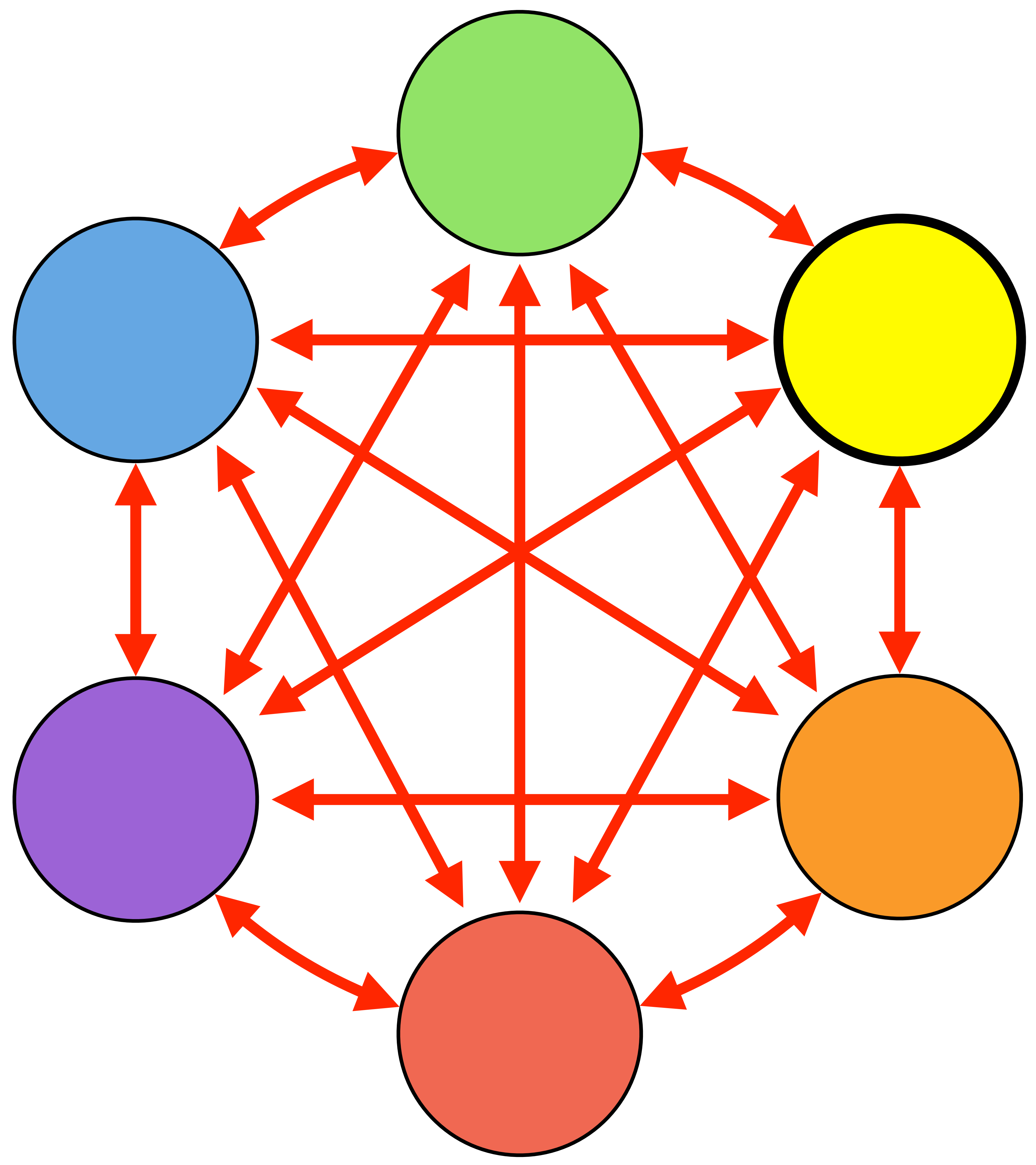
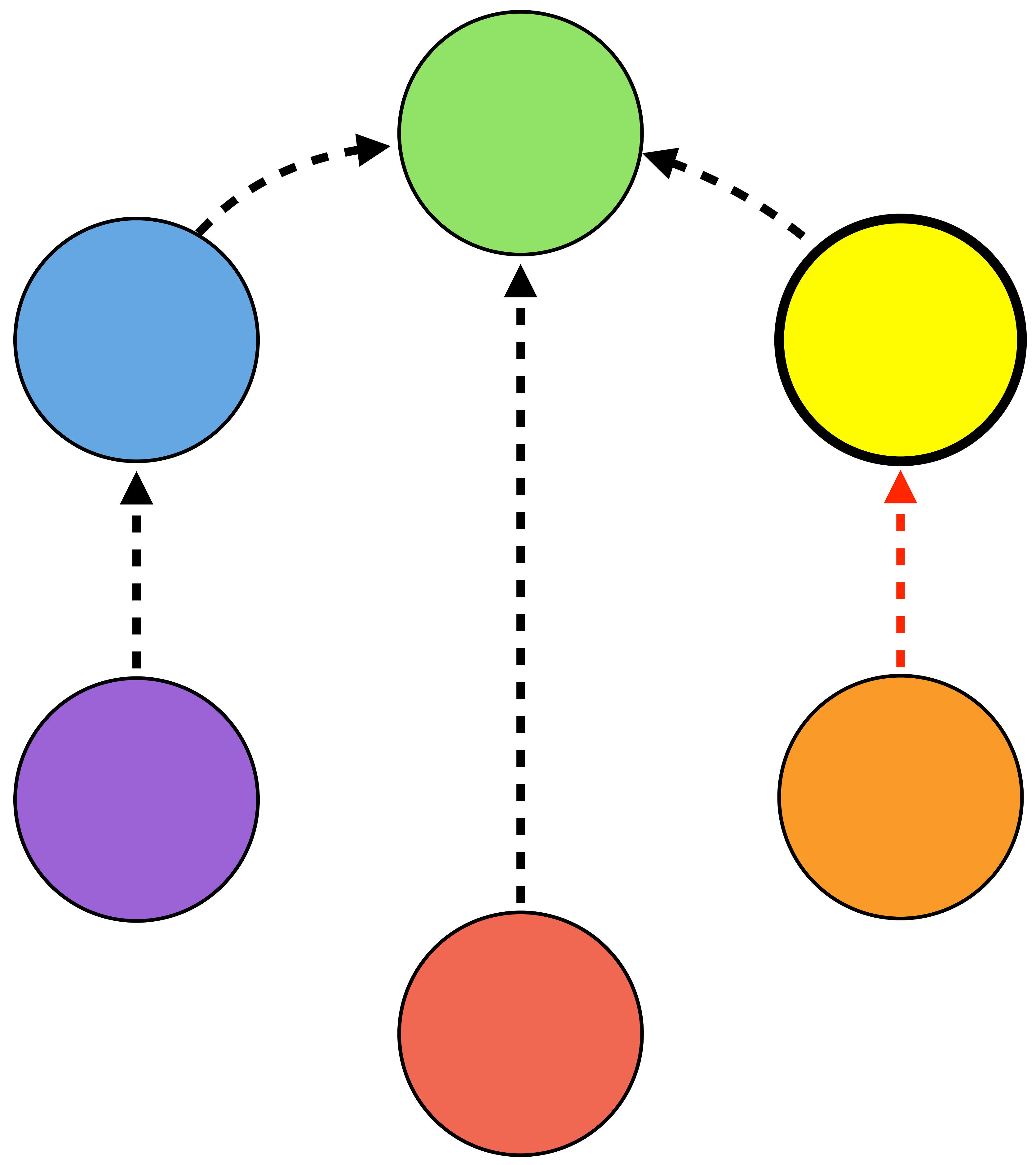


Tight Coupling



Loose Coupling

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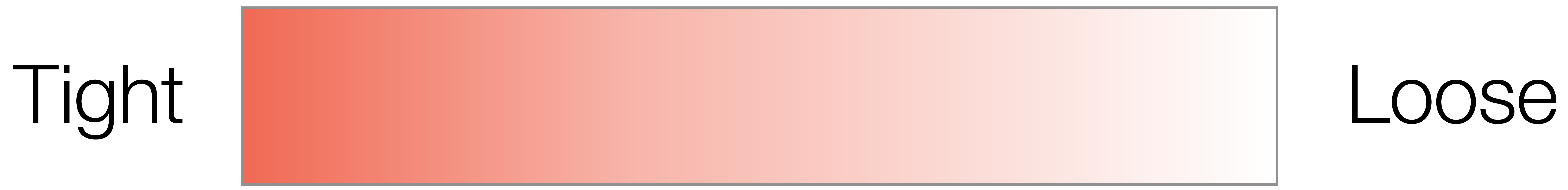

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Coupling Strength

- Distance of the Components
- Type of Coupling
- Timing of Coupling

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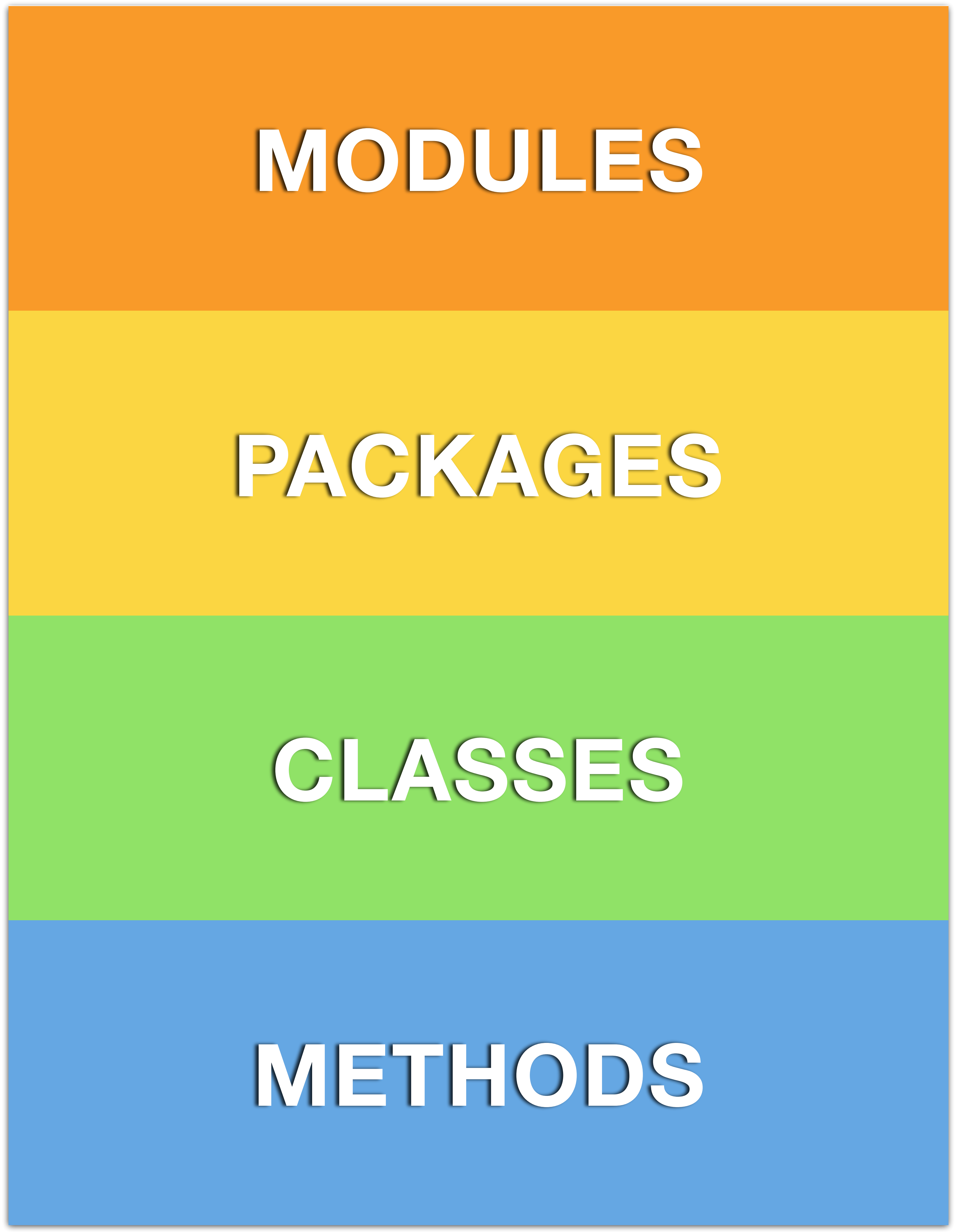
Distance of the Components



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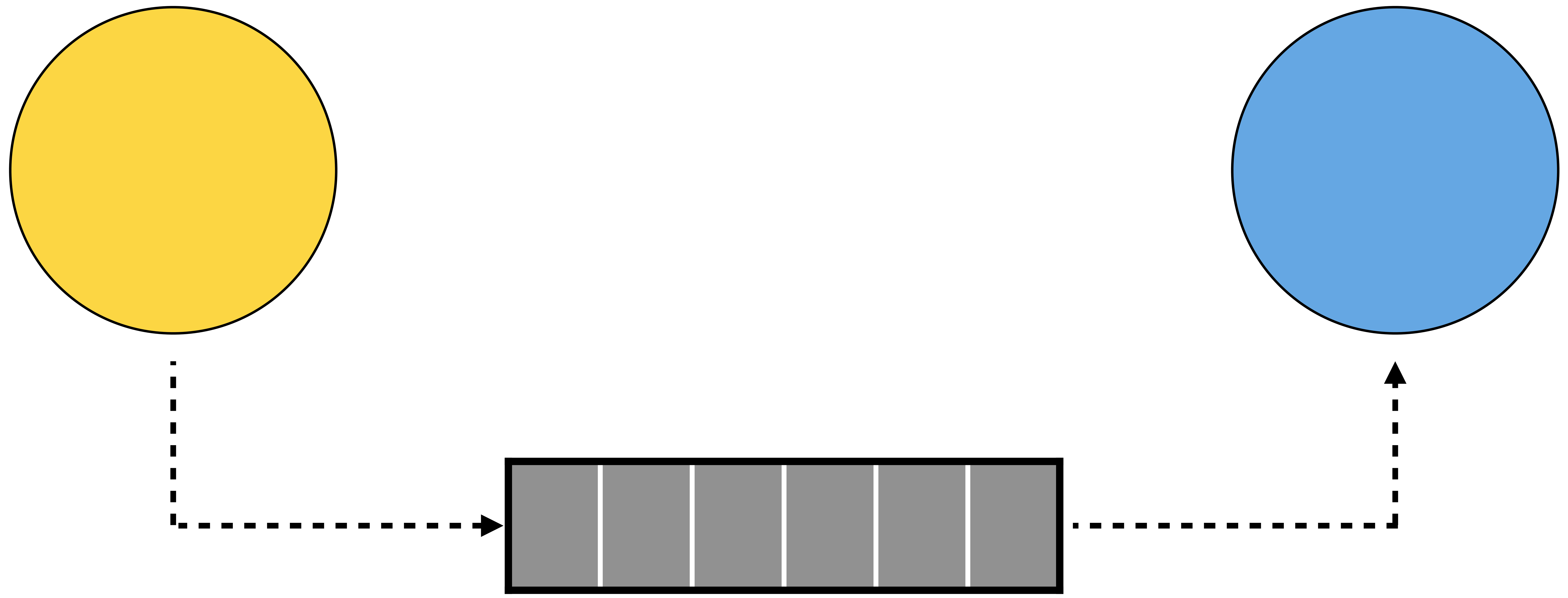
Distance of the Components



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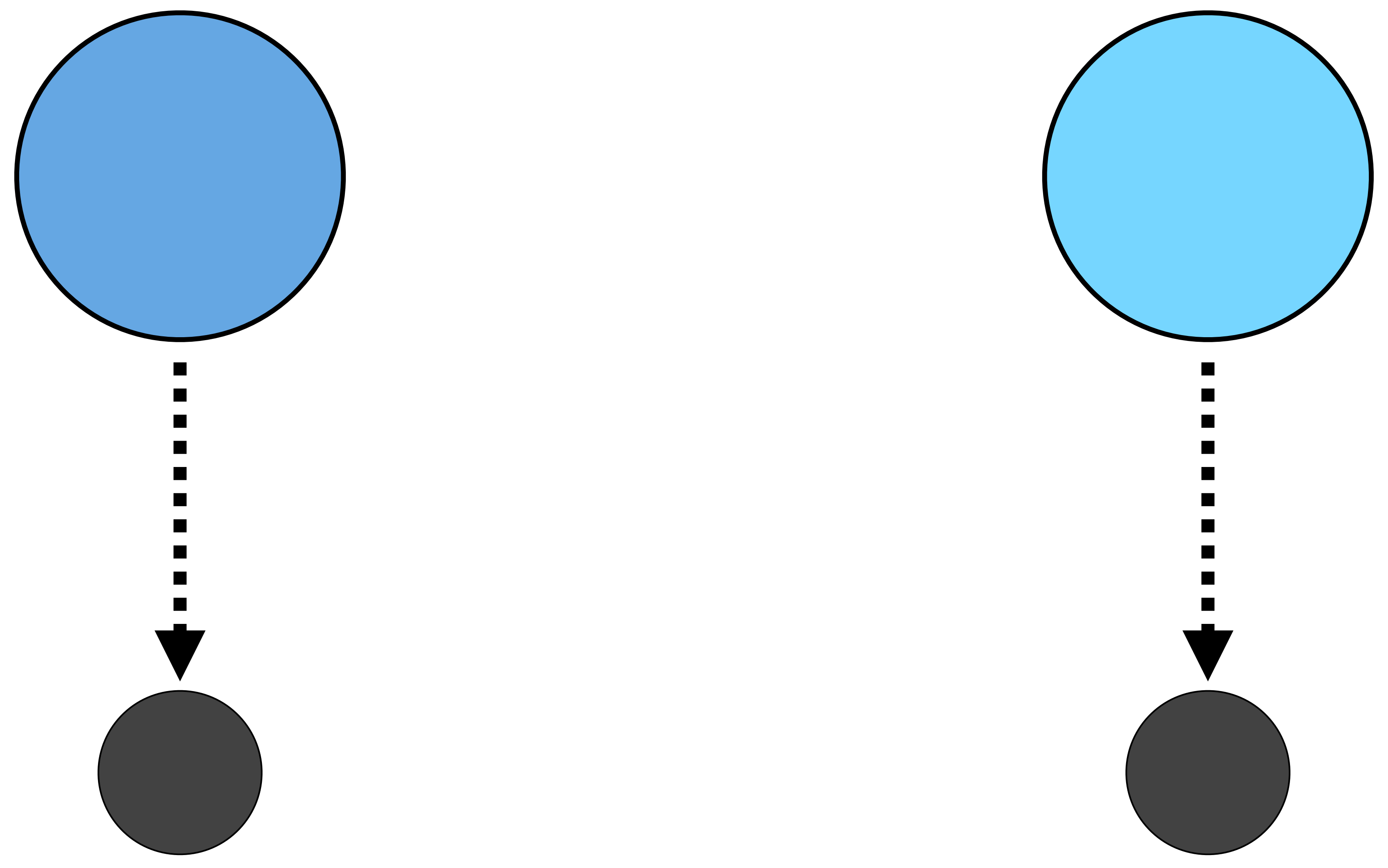

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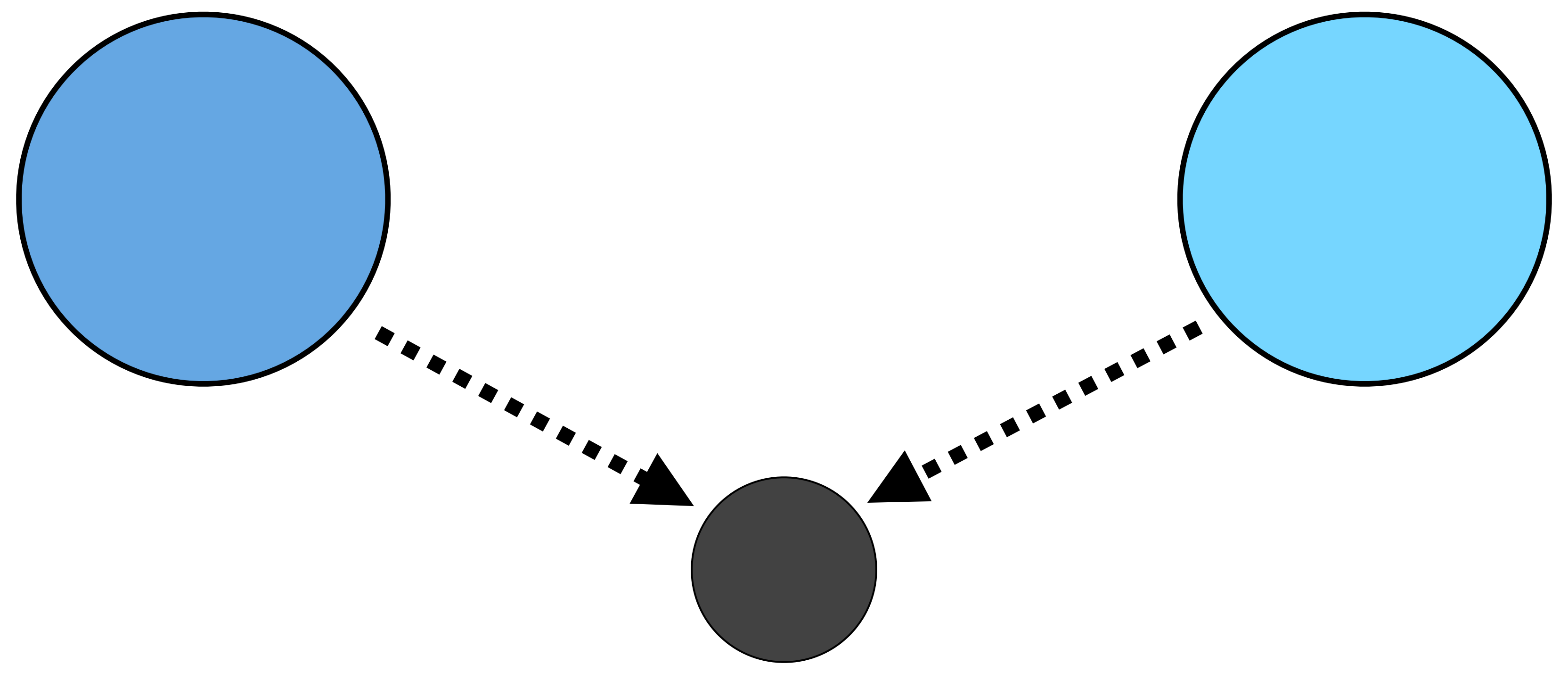

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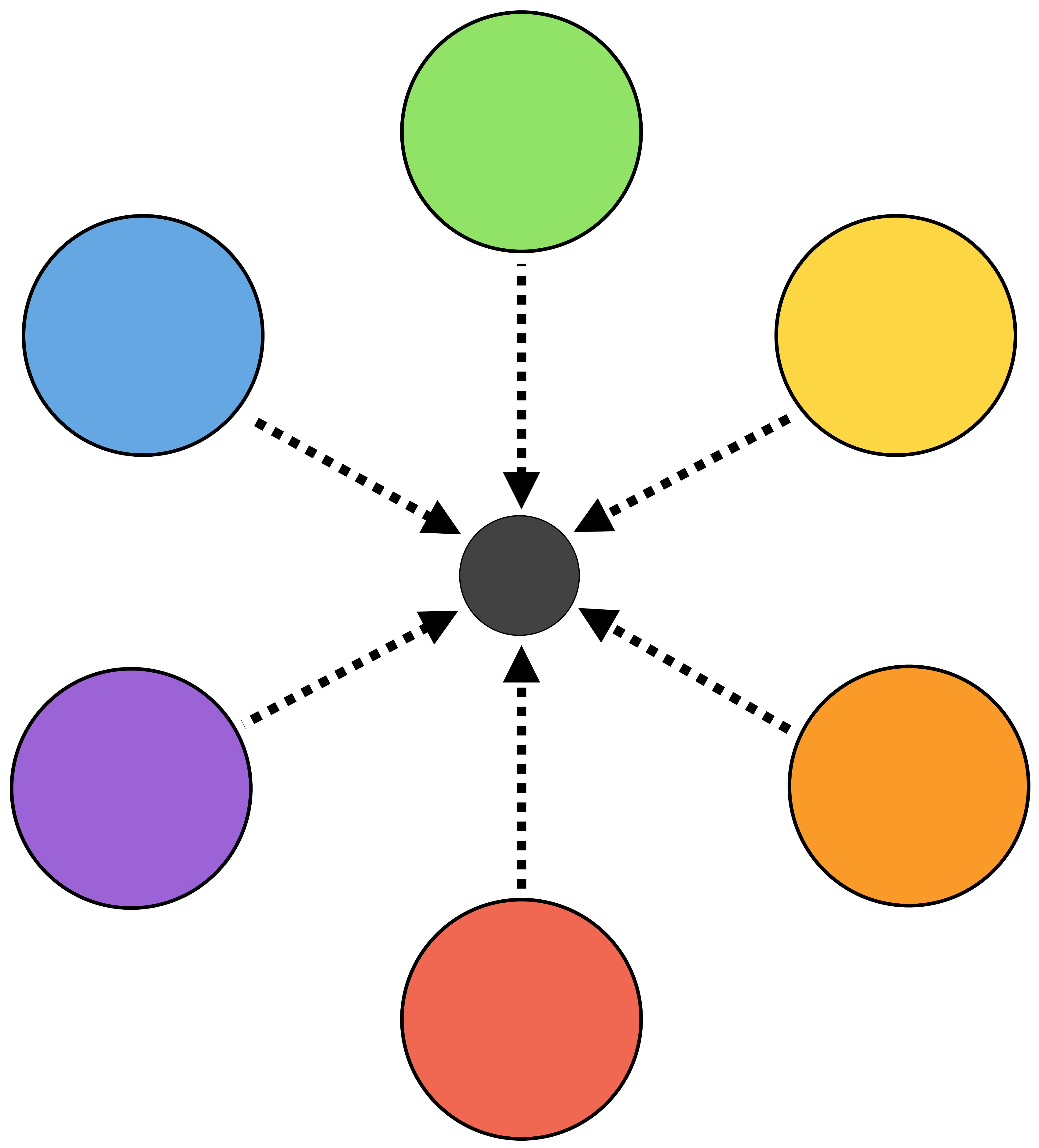

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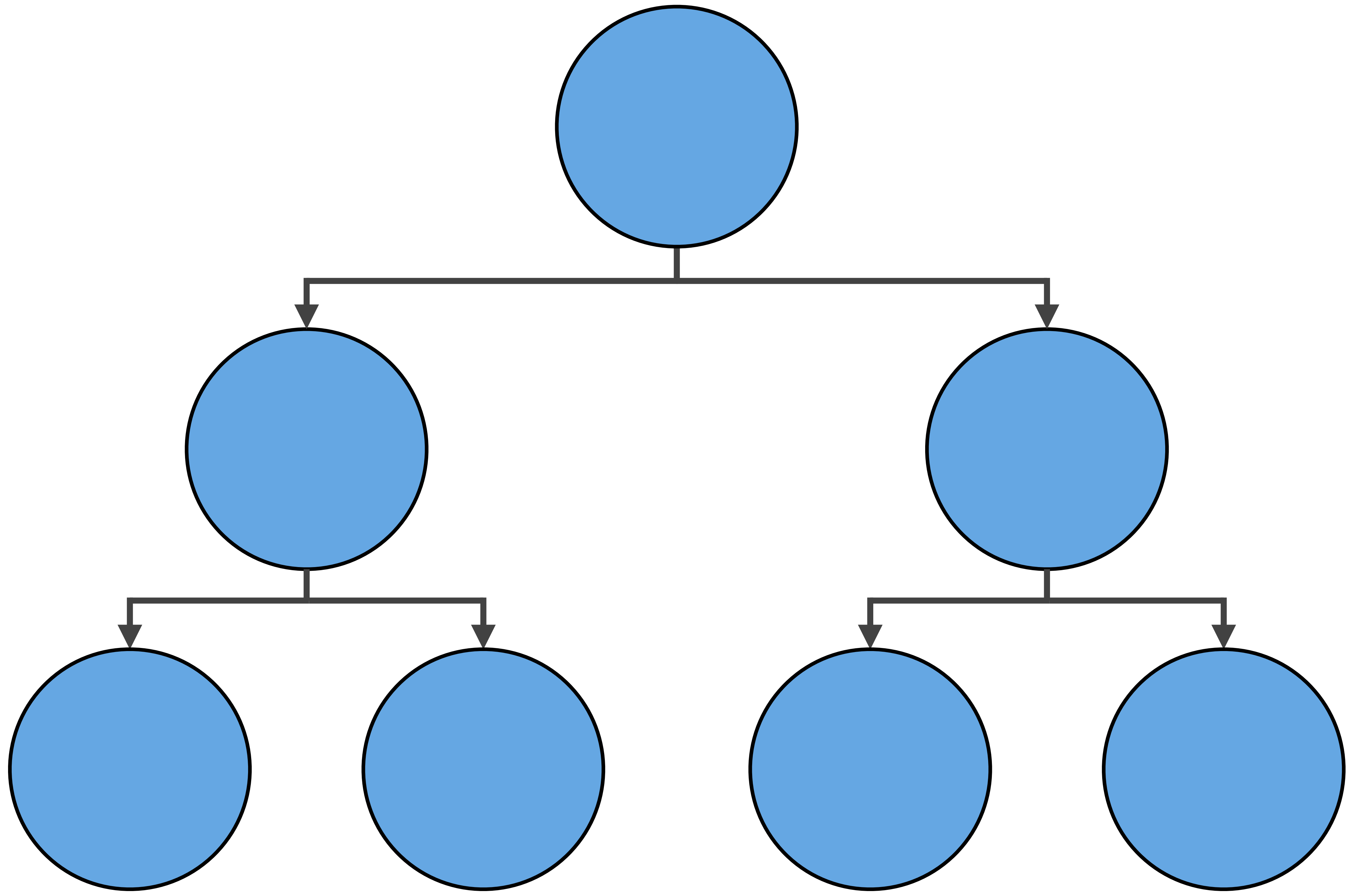
Type of Coupling



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Timing of Coupling

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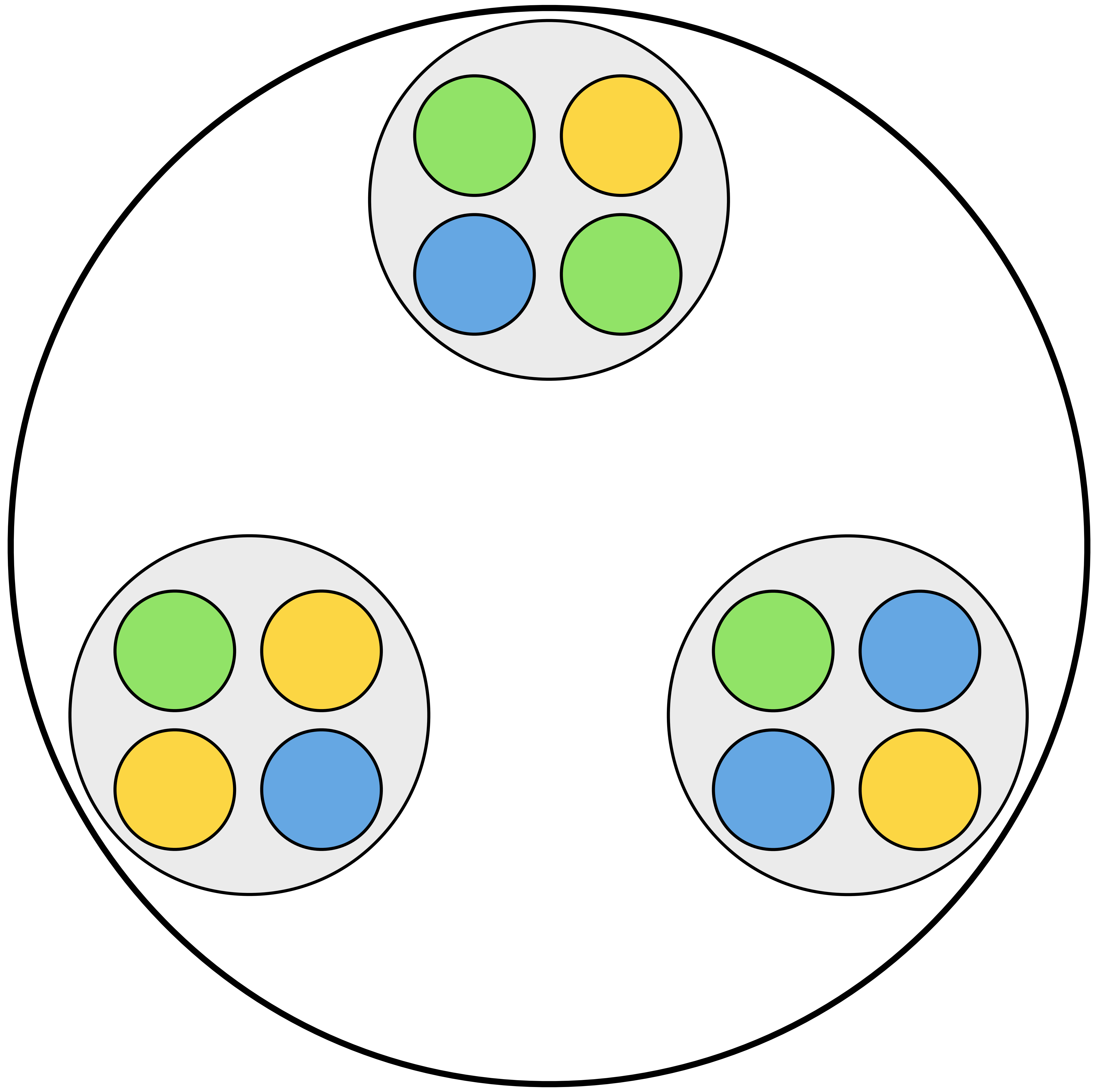
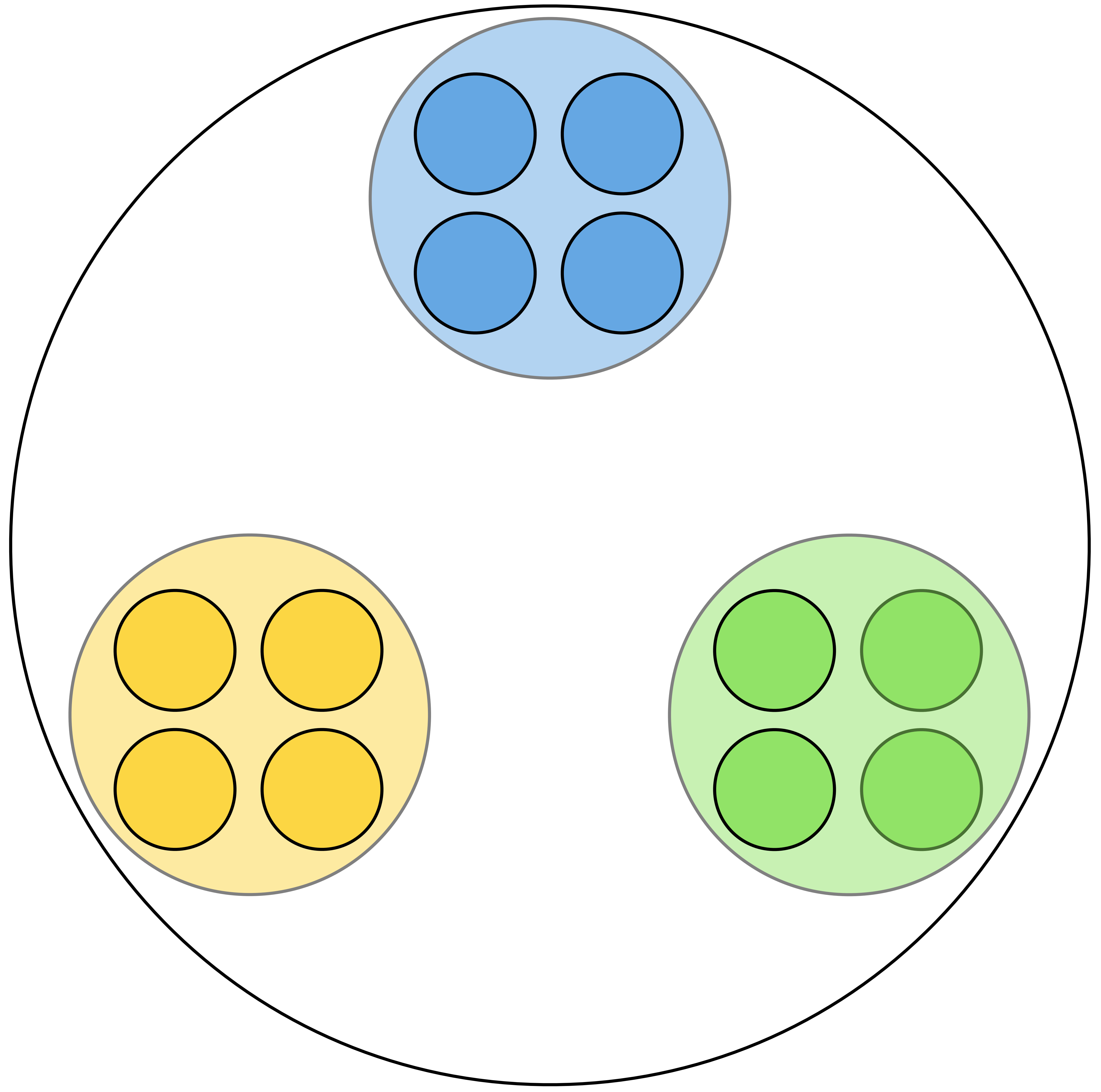
Defining Cohesion


Low Cohesion


High Cohesion

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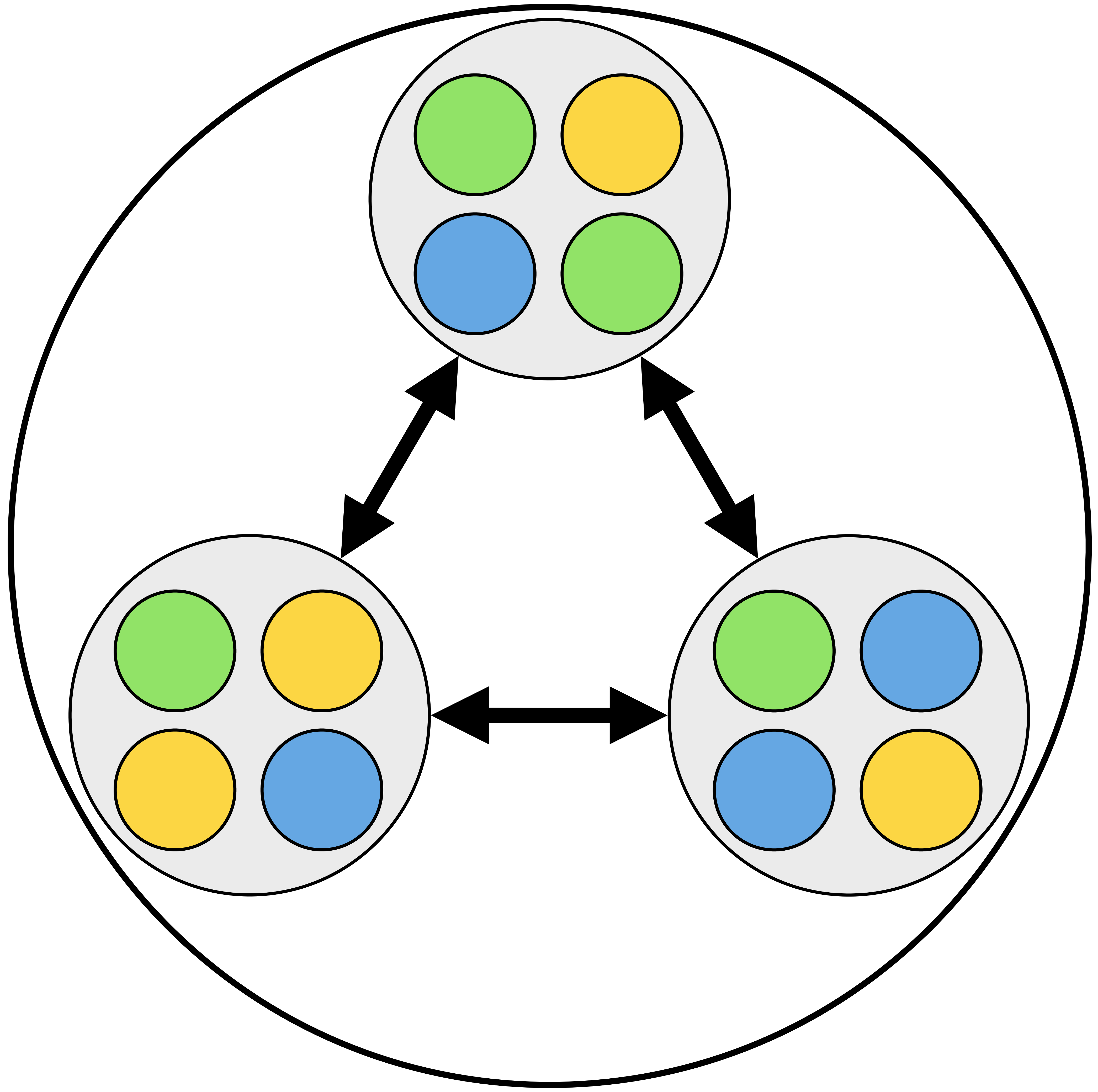
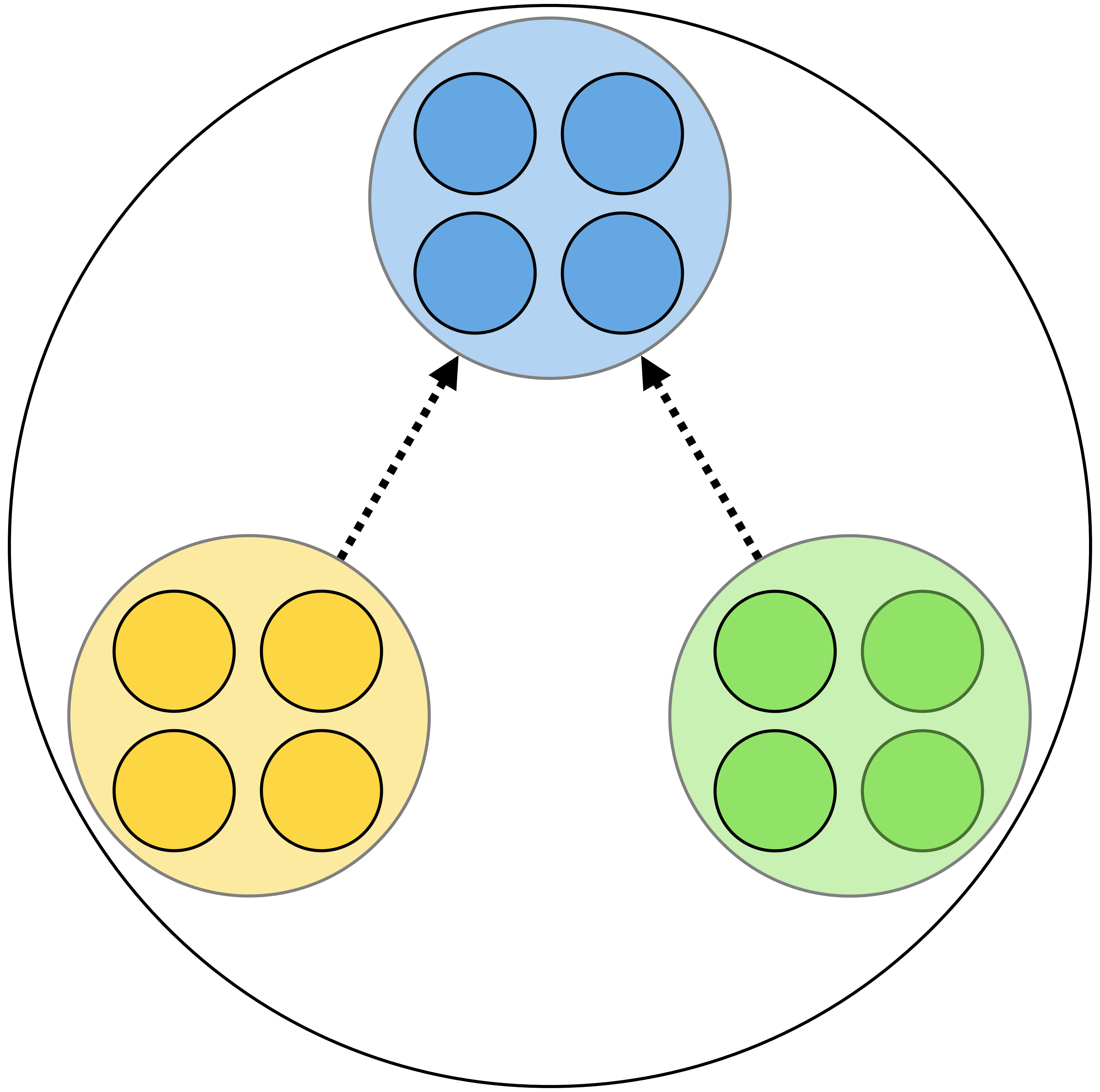
Defining Cohesion



Low Cohesion



High Cohesion

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Defining Cohesion

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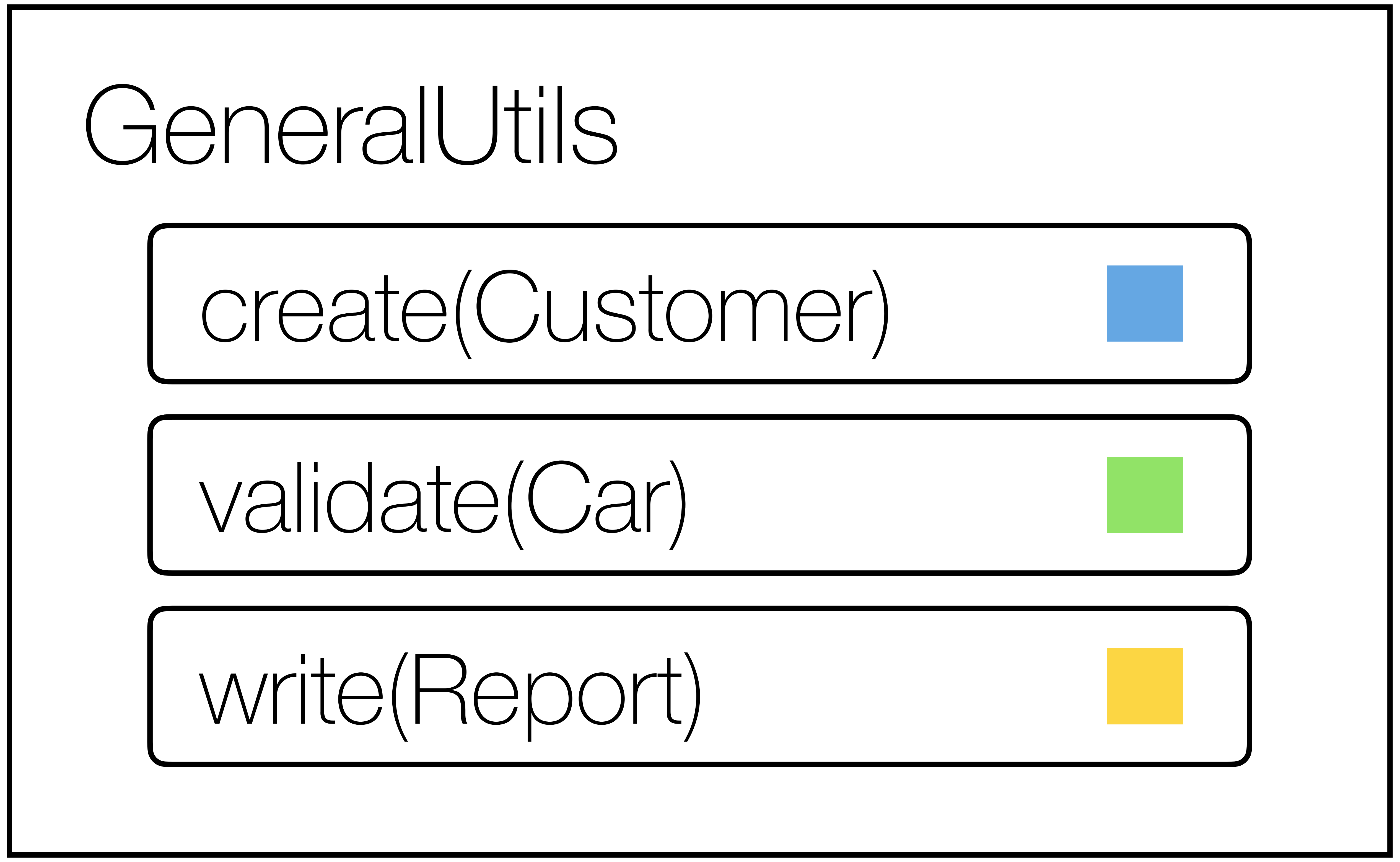

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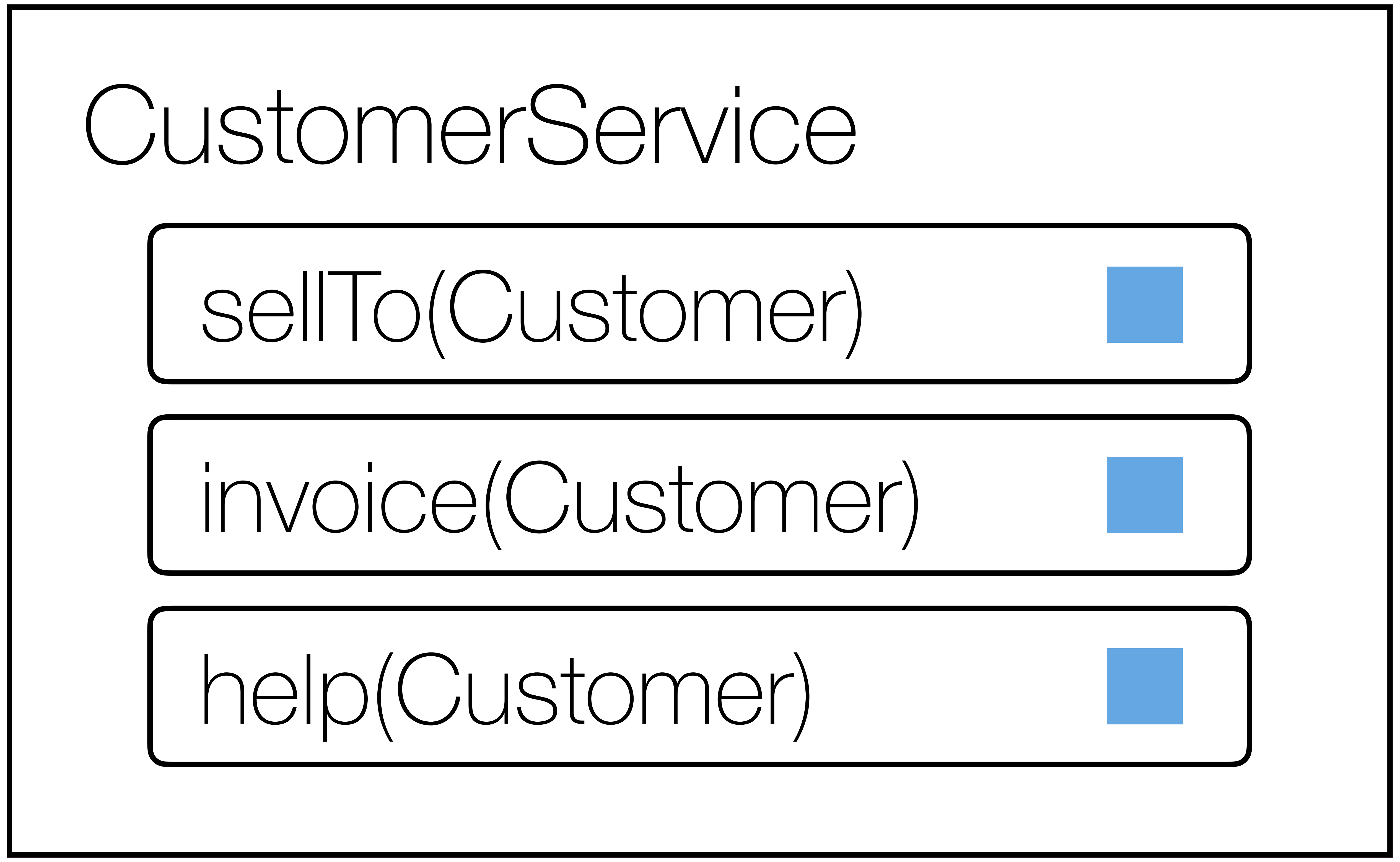

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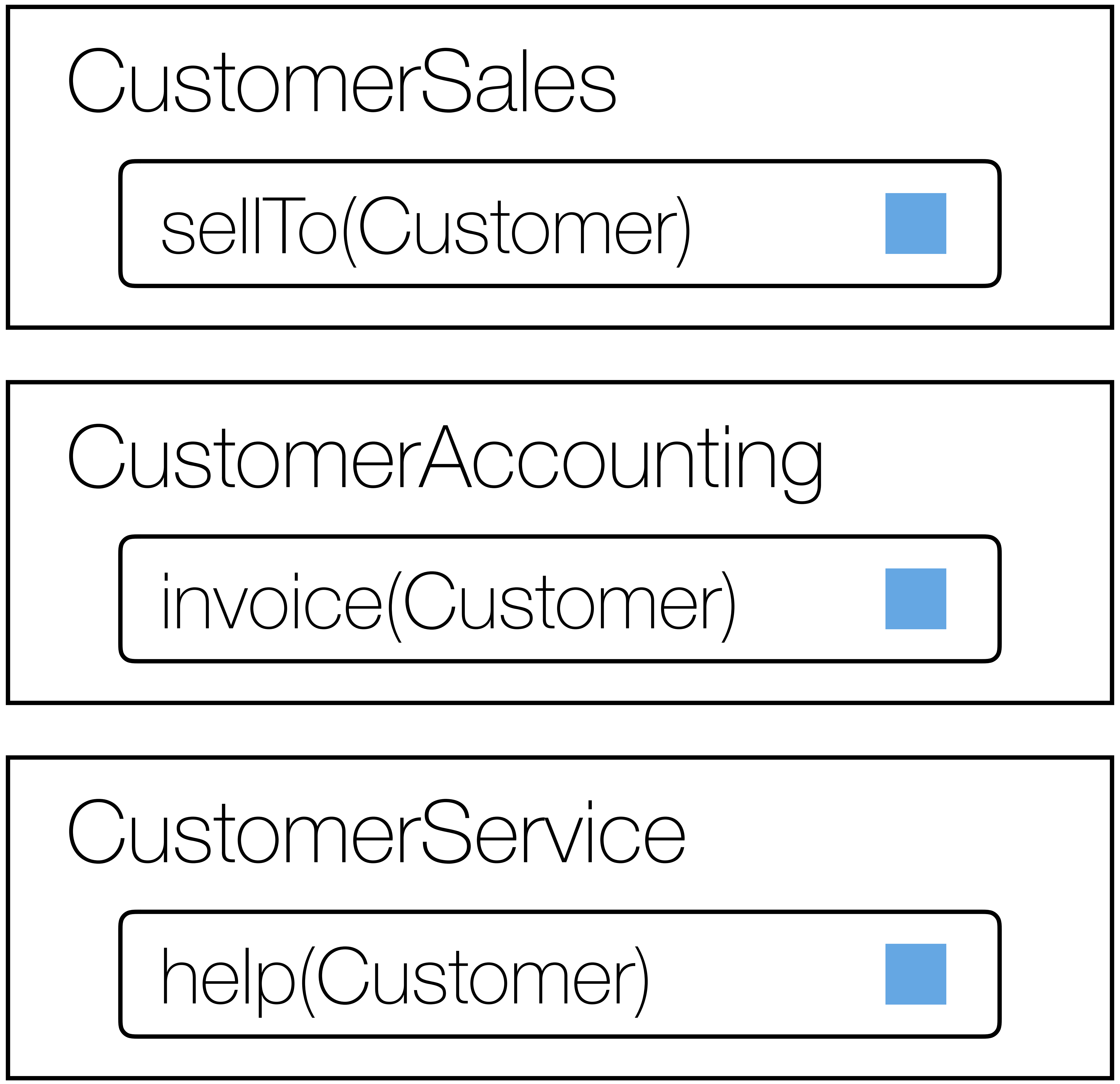

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Cohesion Types

- Logical Cohesion
- Business Cohesion

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Cohesion Key Point

High Cohesion requires in-depth knowledge of the domain.

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Foundation of a Clean Architecture

- Coupling and Cohesion
- **Other Building Blocks**

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Other Building Blocks

- **Encapsulation**
- Naming
- Size

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Encapsulation

- ✓ technically enforces of how the system should be used
- ✓ Getters and Setters violate encapsulation.
- ✓ Use package private more often!

http://bit.ly/EvilGettersAndSetters

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Other Building Blocks

- Encapsulation
- **Naming**
- Size

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Clean Names Key Points

- ✓ Clean names drive high cohesion (Customer, AccountNumber)
- ✓ Use service pattern judiciously
- ✓ Clean names are team work
- ✓ Rename on new insights

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Other Building Blocks

- Encapsulation
- Naming
- **Size**

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Size Key Points

MODULES

PACKAGES

CLASSES

METHODS

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What is Clean Architecture?

“I would advise students to pay more attention to the fundamental ideas rather than the latest technology. The technology will be out-of-date before they graduate. Fundamental ideas never get out of date.”

— David L. Parnas

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