

# Internet Bookstore-Domain Model -1st Pass

1. The **bookstore** will be web based initially, but it must have a sufficiently flexible architecture that alternative front-ends may be developed (Swing/applets, web services, etc.).
2. The bookstore must be able to sell **books**, with **orders** accepted over the **Internet**.
3. The user must be able to add books into an online **shopping cart**, prior to **checkout**.
  - a. Similarly, the user must be able to remove **items** from the shopping cart.
4. The user must be able to maintain **wish lists** of books that he or she wants to purchase later.
5. The user must be able to cancel orders before they've shipped.
6. The user must be able to pay by **credit card** or **purchase order**.
7. It must be possible for the user to return books.

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8. The bookstore must be embeddable into **associate partners'** websites using **mini-catalogs**, which are derived from an overall **master catalog** stored in a central **database**.
  - a. The mini-catalogs must be defined in XML, as they will be transferred between this and (later to be defined) external systems.
  - b. The **shipping fulfillment system** shall be carried out via Amazon Web Services.
9. The user must be able to create a **customer account**, so that the system remembers the user's details (name, address, credit card details) at login.
  - a. The system shall maintain a **list of accounts** in its central database.
  - b. When a user logs in, his or her **password** must always be matched against the passwords in the **master account list**.
10. The user must be able to search for books by various **search methods**—**title**, **author**, **keyword**, or **category**—and then view the **books' details**.
11. It must be possible for the user to post reviews of favorite books; the **review comments** should appear on the book details screen. The review should include a **customer rating** (1–5), which is usually shown along with the book title in **book lists**.

- a. **Book reviews** must be moderated—that is, checked and “OK’d” by a member of staff before they’re published on the website.
  - b. Longer reviews should be truncated on the book details screen; the **customer** may click to view the full review on a separate page.
- 12. It must be possible for staff to post **editorial reviews** of books. These should also appear on the book details screen.
- 13. The bookstore shall allow third-party **sellers** (e.g., second-hand bookstores) to add their own individual **book catalogs**. These are added into the overall **master book catalog** so that sellers’ books are included in search results.
- 14. The bookstore must be scalable, with the following specific requirements:
  - a. The bookstore must be capable of maintaining **user accounts** for up to 100,000 customers in its first six months, and then a further 1,000,000 after that.
  - b. The bookstore must be capable of serving up to 1,000 simultaneous users (10,000 after six months).
  - c. The bookstore must be able to accommodate up to 100 search requests per minute (1,000/minute after six months).
  - d. The bookstore must be able to accommodate up to 100 purchases per hour (1,000/hour after six months).



# Clases Potenciales

Associate Partner	Customer Account	Order
Author	Customer Rating	Password
Book	Database	Purchase Order
Book Catalog	Editorial Review	Review Comment
Book Details	Internet	Search Method
Book List	Item	Search Results
Book Review	Keyword	Seller
Bookstore	List of Accounts	Shipping Fulfillment System
Category	Master Account List	Shopping Cart
Checkout	Master Book Catalog	Title
Credit Card	Master Catalog	User Account
Customer	Mini-Catalog	Wish List

# Analizar los Sustantivos

- Diferenciar entre actores y “entity classes”.
  - **Customer** (actor), **Customer Account** (Entity Class)
- Estar alerta por duplicados.
  - **User Account** y **Customer Account**-duplicados
  - **List of Accounts** y **Master Account List**-duplicados
  - **Book Review** y **Review Comment**-duplicados
  - **Book Catalog** y **Master Catalog**-duplicados
  - **Master Catalog** y **Master Book Catalog**
  - **Book** y **Book Details**
- Estar alerta por sustantivos que no dan valor al modelo; un concepto demasiado genérico: **Internet** y **Bookstore**
- Estar alerta por sustantivos que son demasiado pequeños conceptualmente para ser clases; **Password**

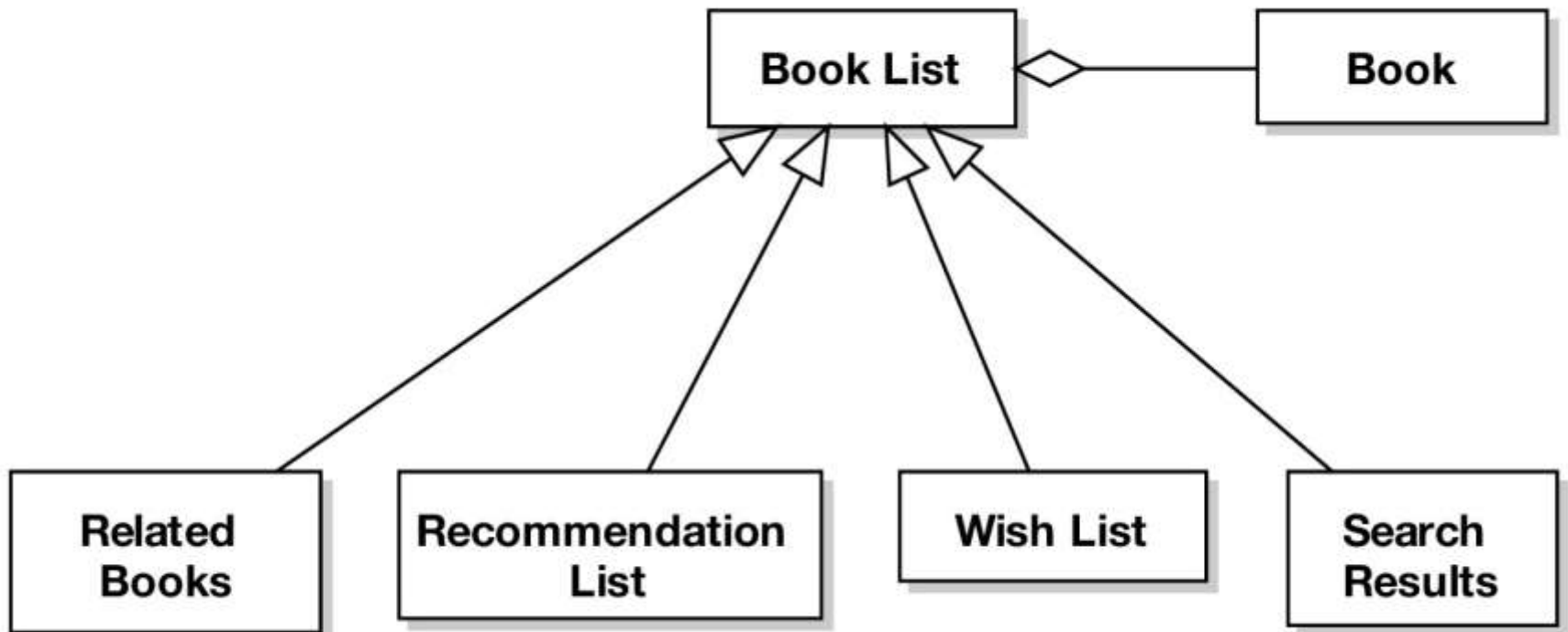
# Cont'd Analizar Los Sustantivos

- Estar alerta por sustantivos que son demasiado pequeños conceptualmente para ser clases; **Title** y **Keyword**

# Resultado de la Edición

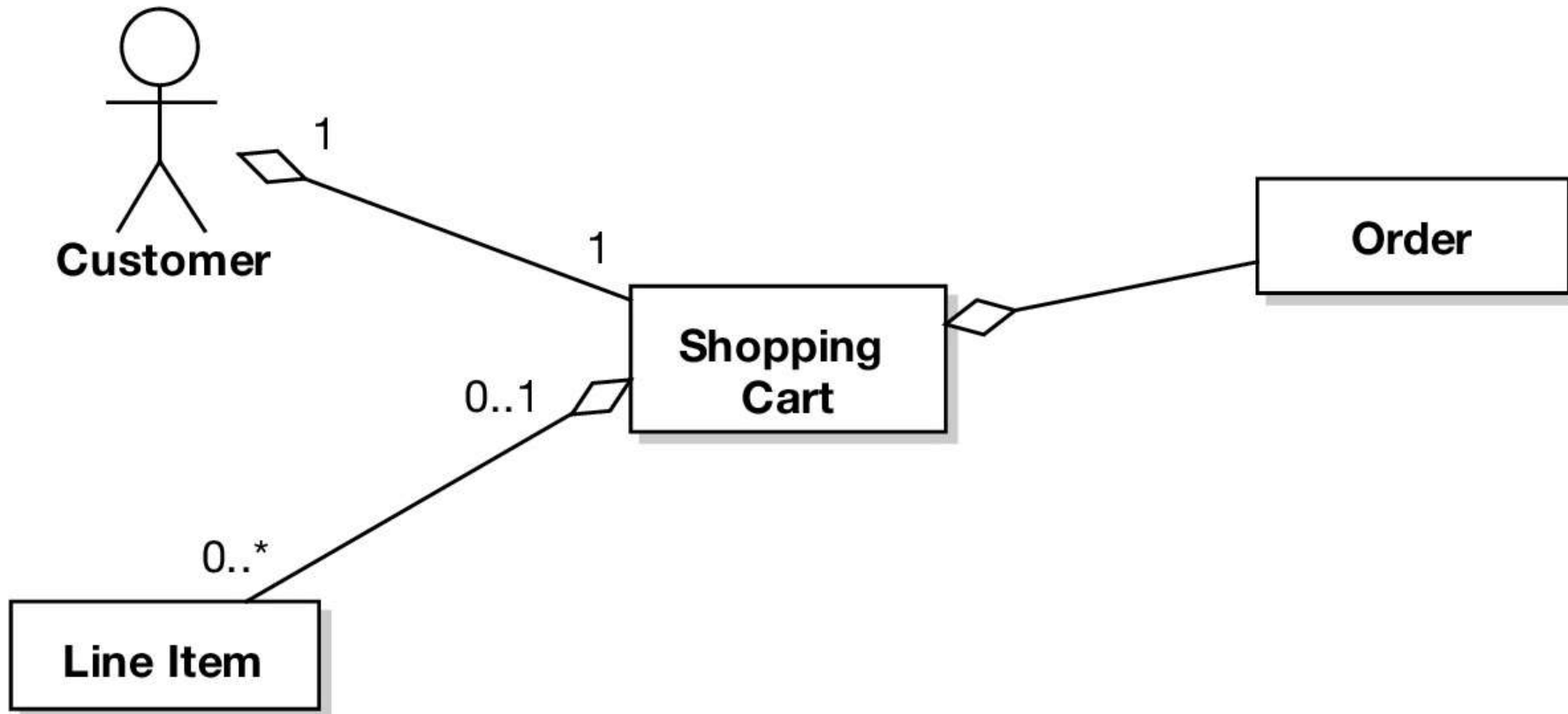
Associate Partner	Customer Account	Order
Author	Customer Rating	Purchase Order
Book	Database	Search Method
Book List	Editorial Review	Search Results
Book Review	Line Item	Shipping Fulfillment System
Category	Master Account List	Shopping Cart
Checkout	Master Book Catalog	Wish List
Credit Card	Mini-Catalog	

# Generalización



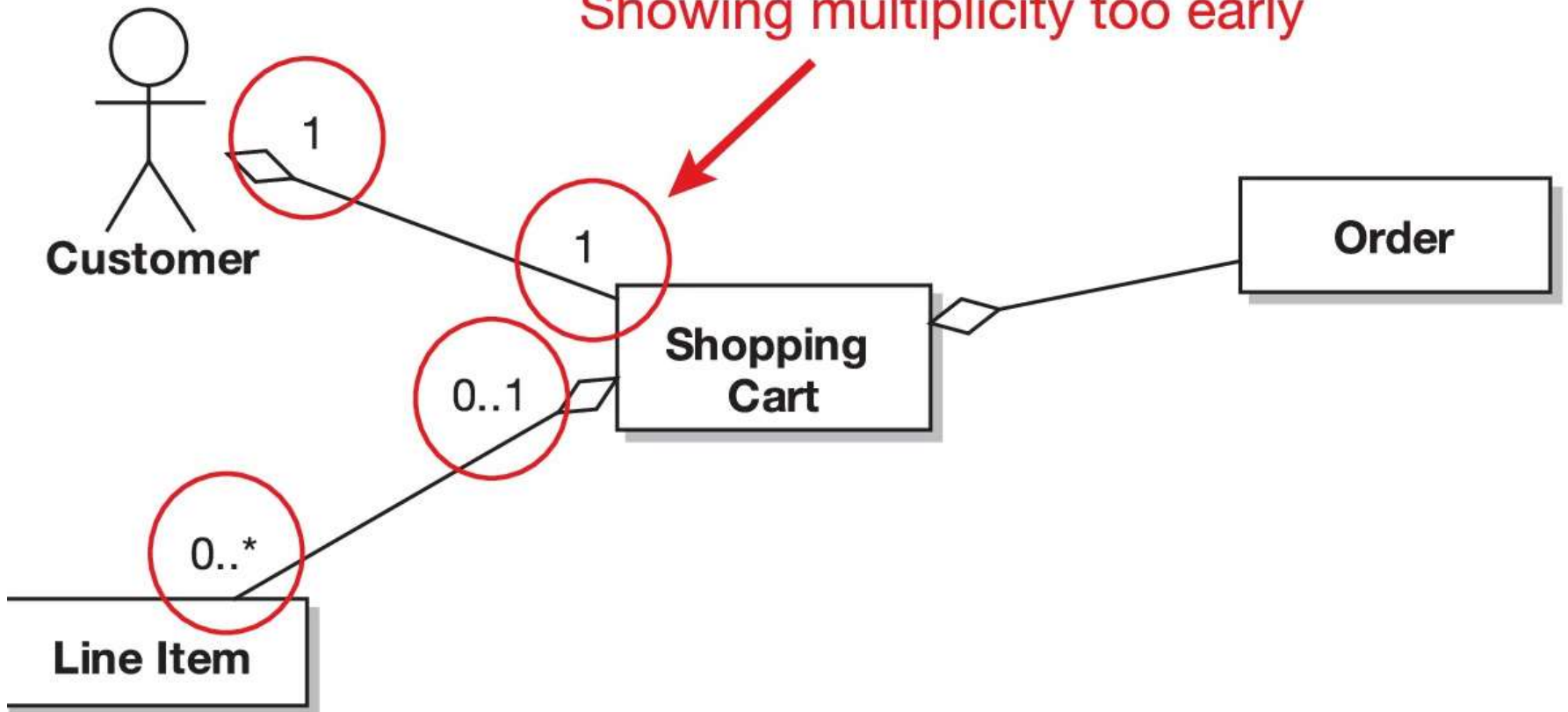


# Que Problema Tiene Este Diagrama

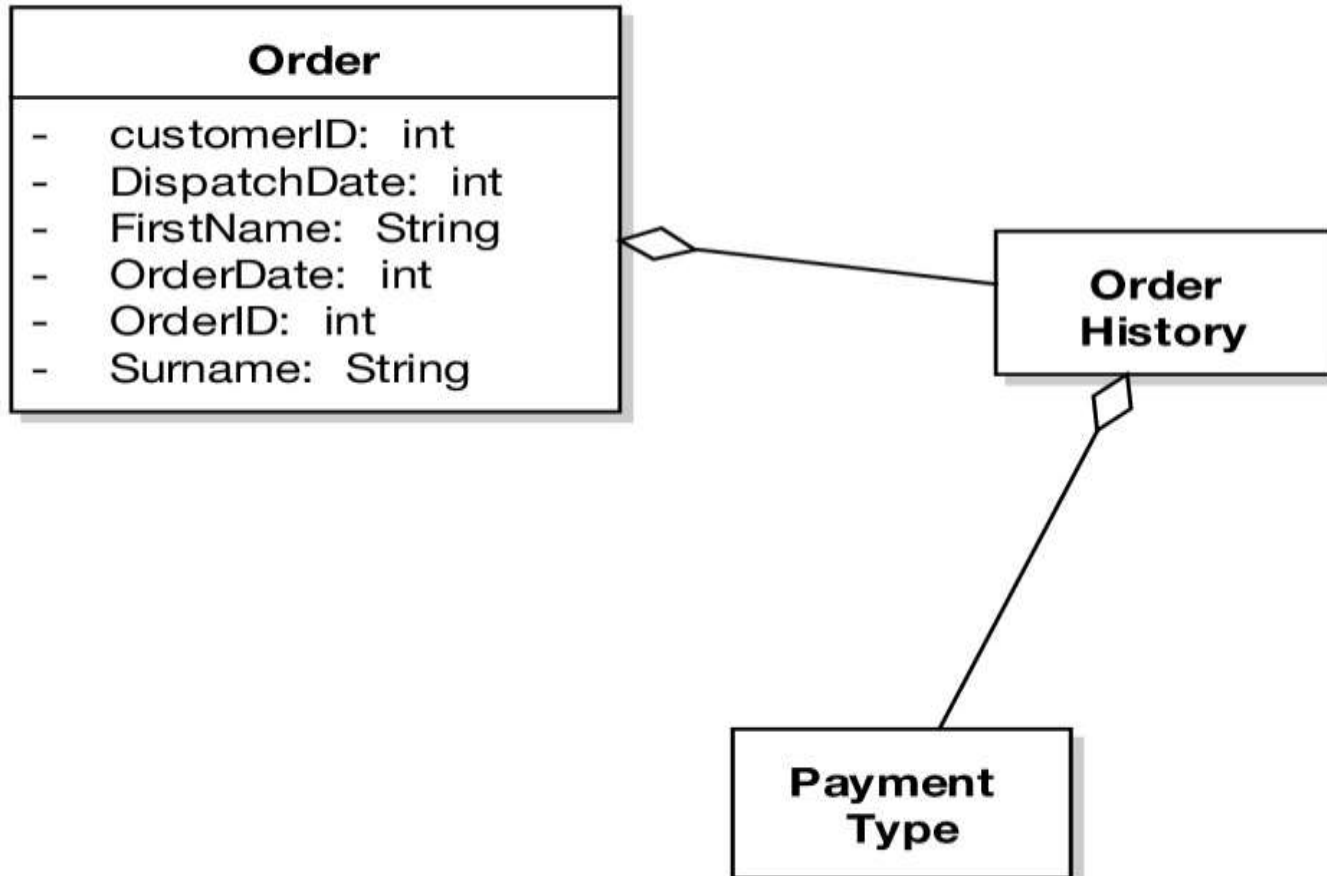


# Solución

Showing multiplicity too early

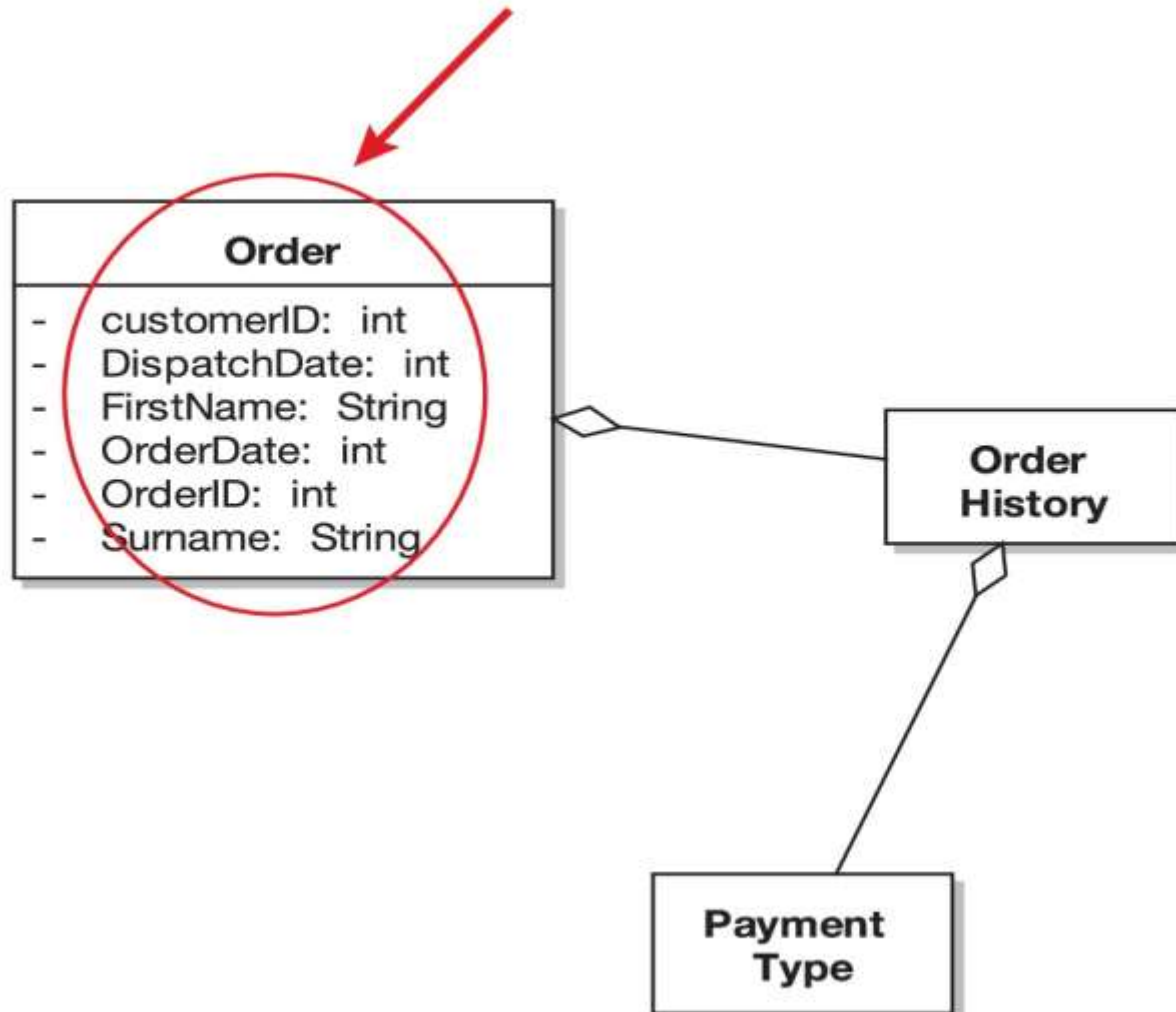


# Problema?

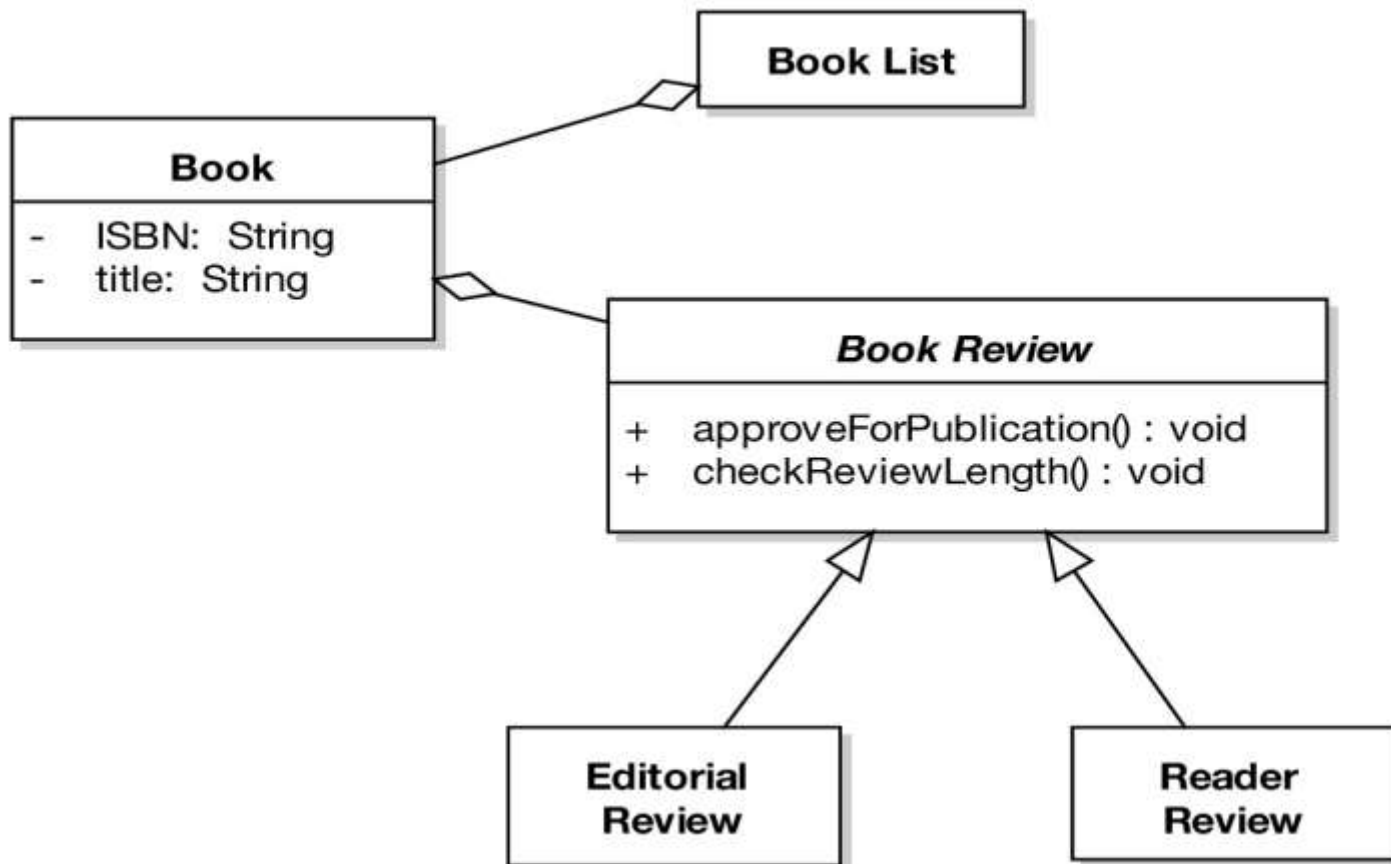


# Solución

Not just Order attributes



# Problema?



# Solución

