



**Kampus
Merdeka**
INDONESIA JAYA



Relationship Participation

Bachelor of Information Systems

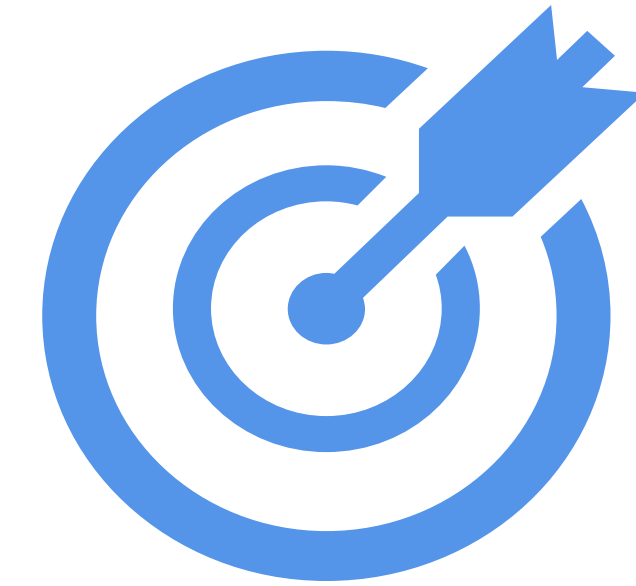


INTRODUCTION TO
DATABASE AND INFORMATION SYSTEM



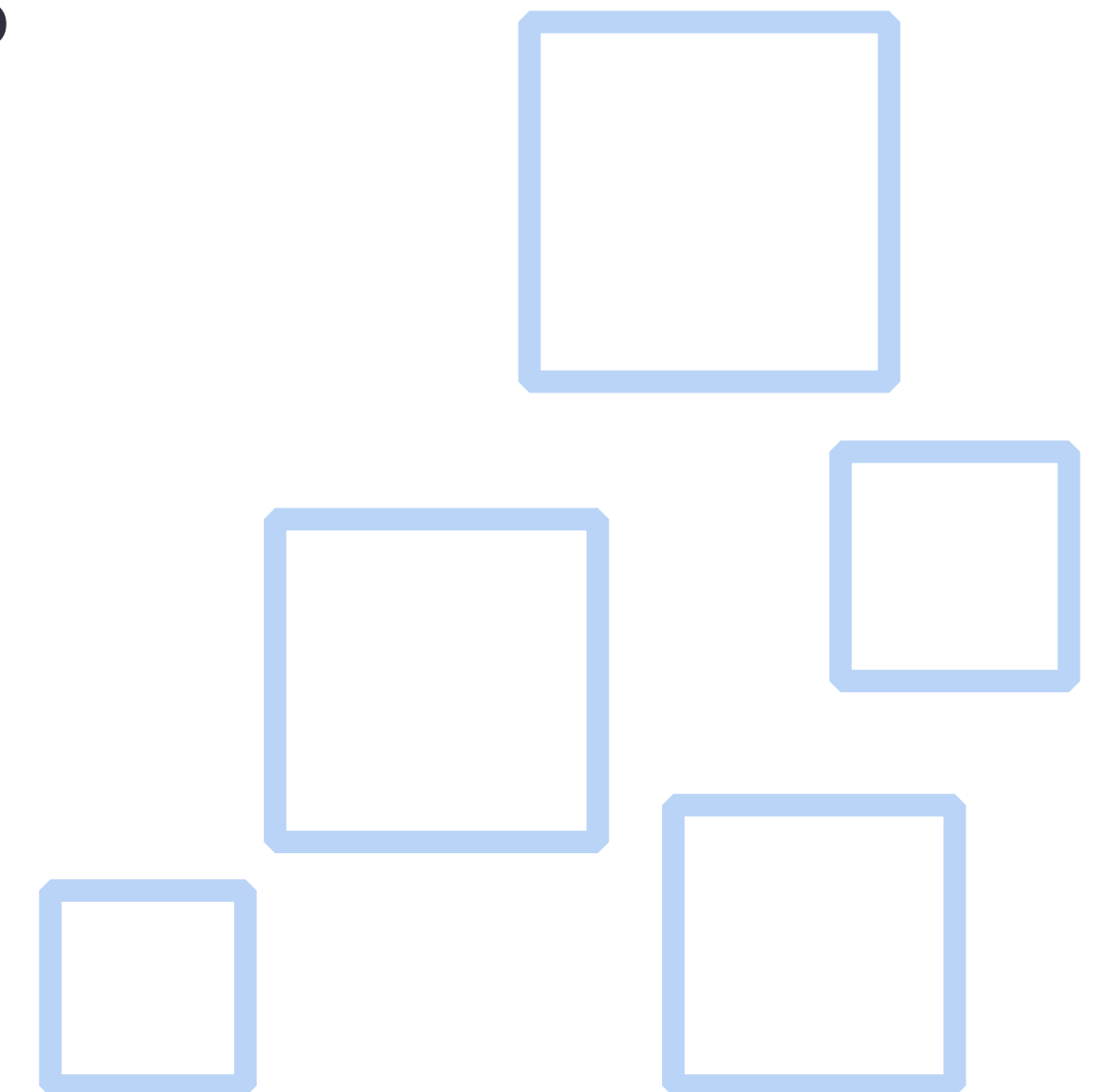
Learning Objective(s)

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This material should address the following question(s).

- ❓ Is it mandatory for an entity to collaborate in a relationship?



Case Study



Inside the campus library.



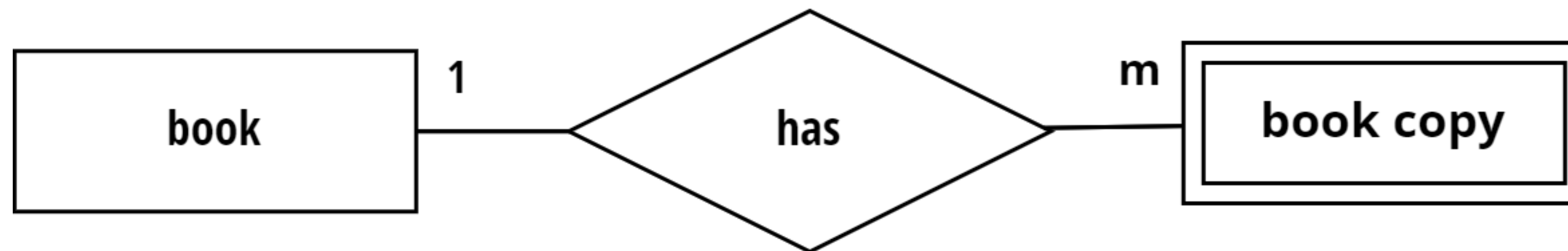
Case Study

- A library has a multitude copies of books, articles, etc.
 - New collections come periodically.
- Anyone may come and enjoy the collections.
 - Only library members can lend books for period of time.

Inside the campus library.



Book - Book Copy Relationship



The existence of a book copy is dependent to the existence of the book.

Entity Existence

Inside the campus library.

- The library may have multiple **copies** of a **book**. or
- A **book** is printed into a number of **copies** and stored in the library.

Is it possible for a book to have no copy at all?

In other words, is it possible to have a book that never be printed?

Entity Existence

Inside the campus library.

- The library may have multiple **copies** of a **book**. or
- A **book** is printed into a number of **copies** and stored in the library.

Is it possible for a book to have no copy at all?

Yes! It is possible.

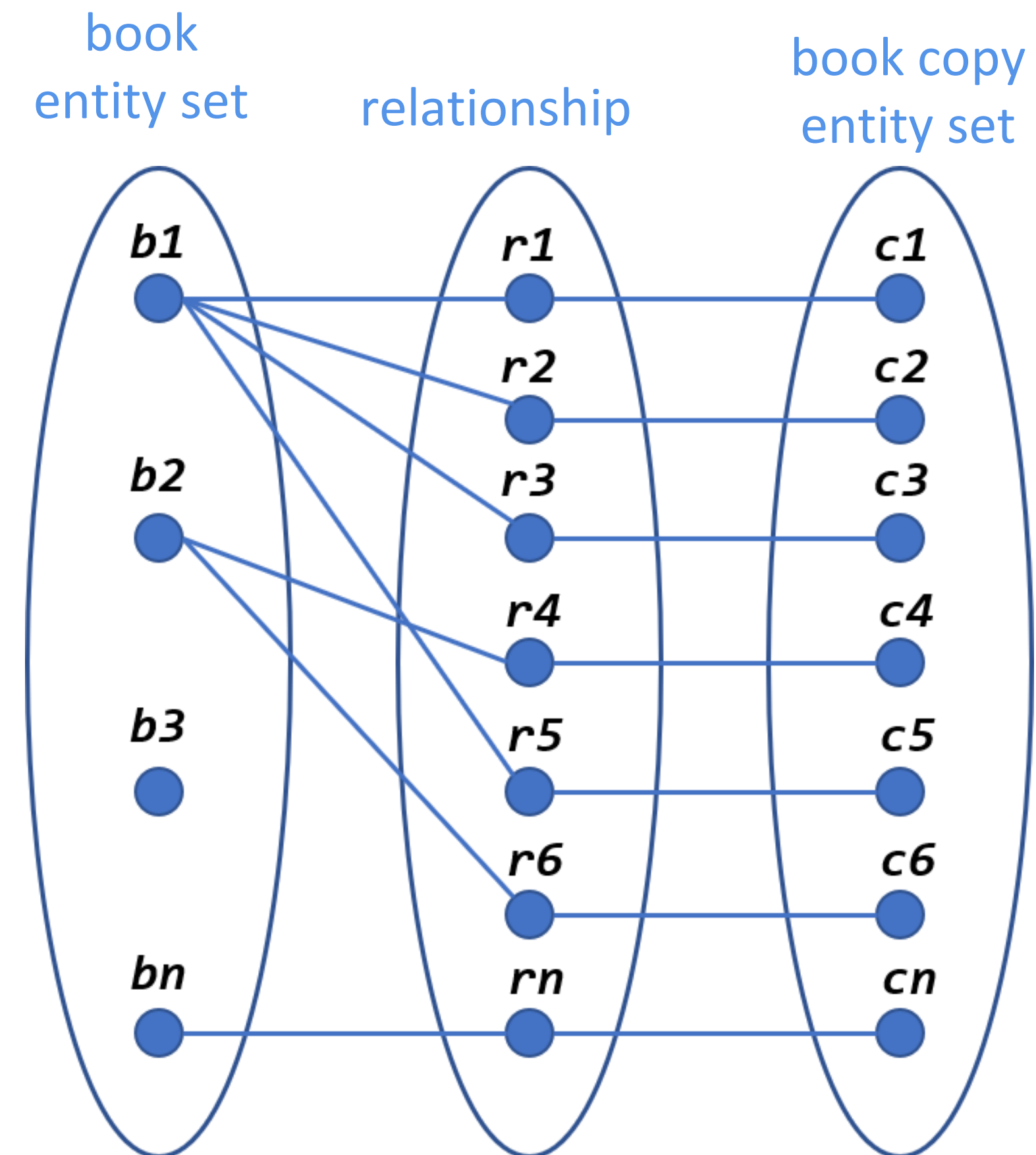
It is not mandatory for a book to participate in the relationship.

Partial Participation

There might be a case where a book has no corresponding copy.

- e.g. *b3* does not participate in the relationship.

The book entity is doing a **partially participation** in the relationship.



Entity Existence

Inside the campus library.

- The library may have multiple **copies** of a **book**. or
- A **book** is printed into a number of **copies** and stored in the library.

Will there be a case when a copy lives without a book?

Entity Existence

Inside the campus library.

- The library may have multiple **copies** of a **book**. or
- A **book** is printed into a number of **copies** and stored in the library.

Will there be a case when a copy lives without a book?

No. A copy is a weak entity.

A copy cannot exist without its corresponding book.

Entity Existence

Inside the campus library.

- The library may have multiple **copies** of a **book**. or
- A **book** is printed into a number of **copies** and stored in the library.

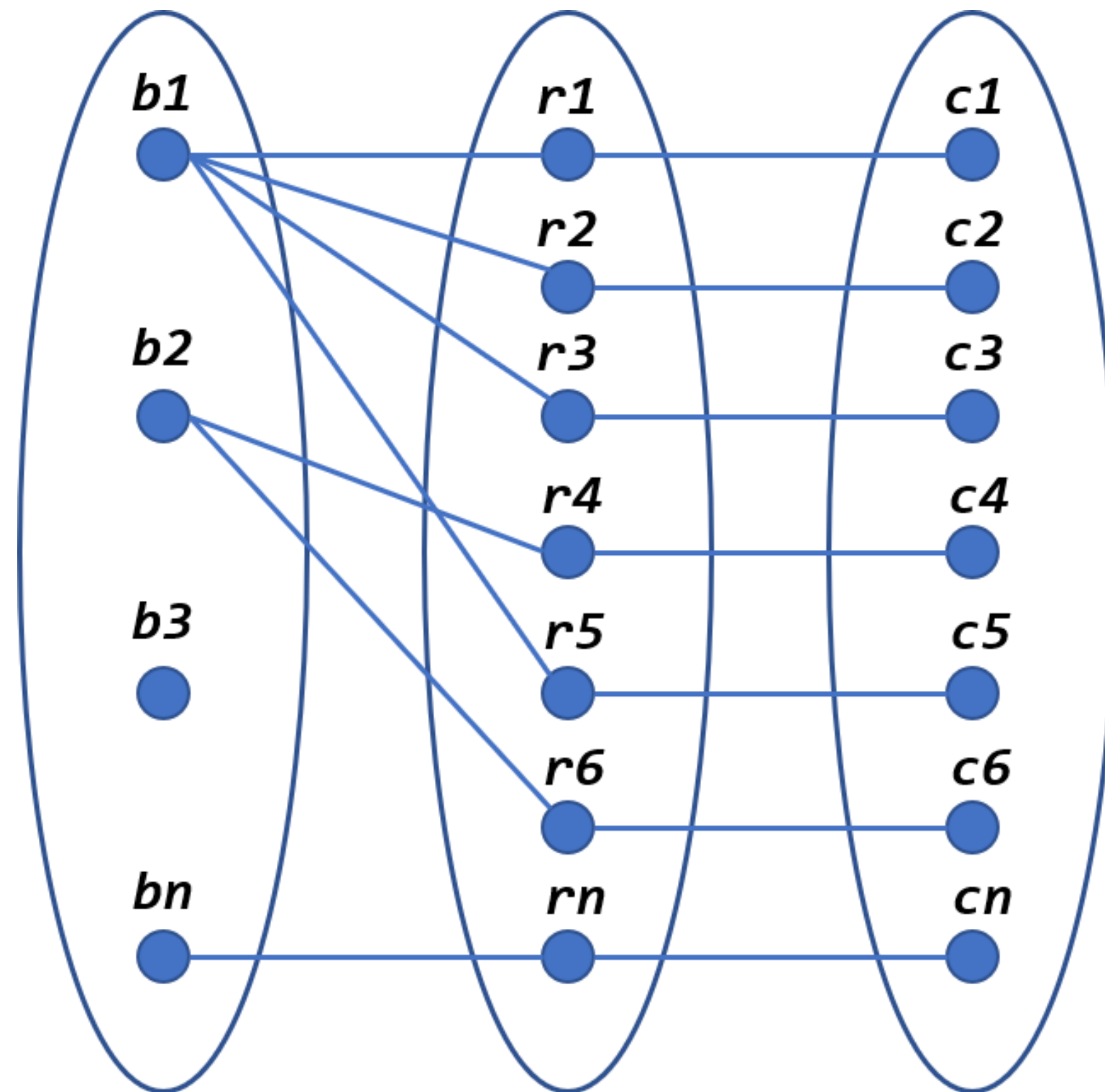
Meaning, every copy entity must participate in the relationship.

The book copy applies the **total participation** in the relationship.

book
entity set

relationship

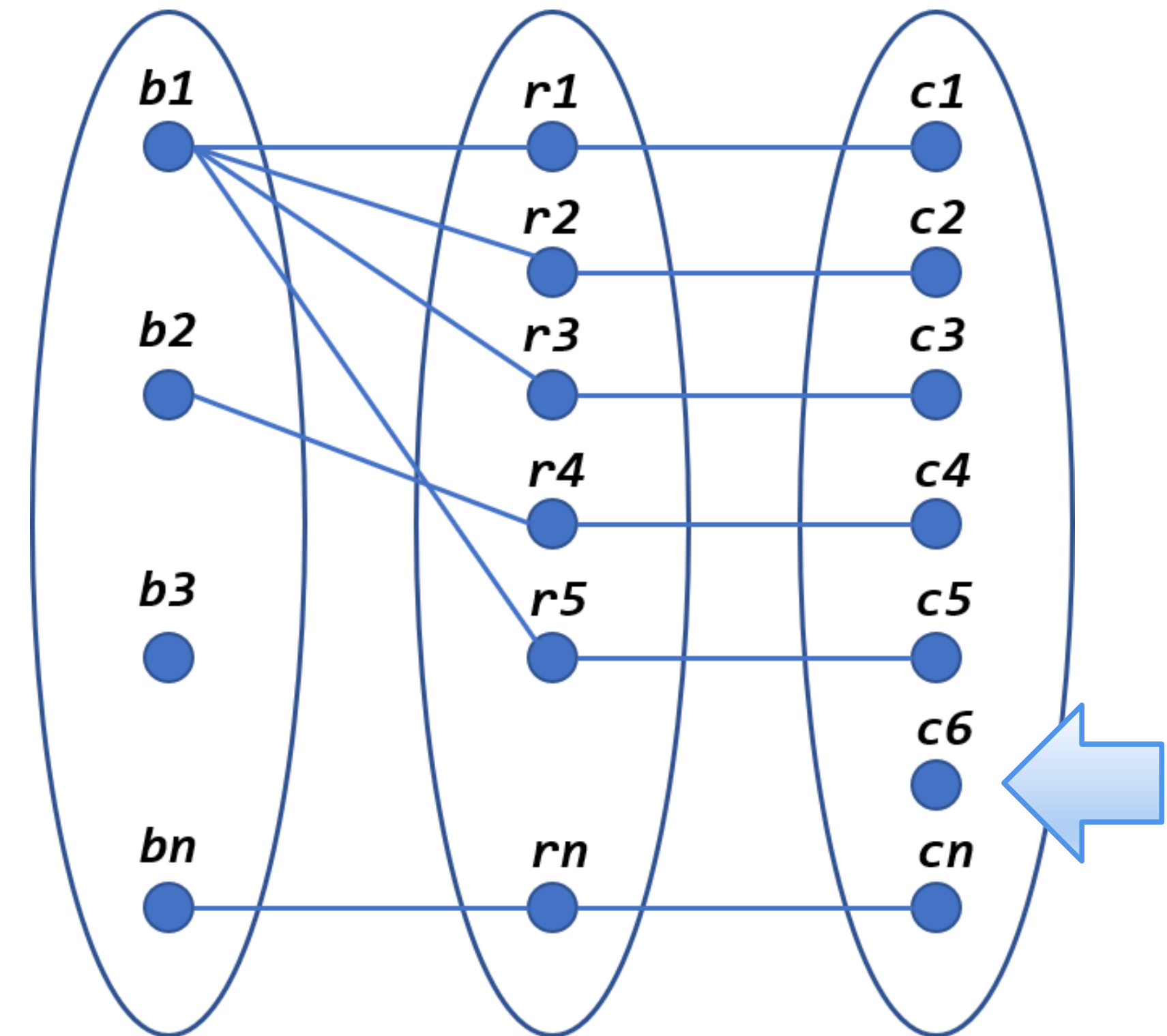
book copy
entity set



book
entity set

relationship

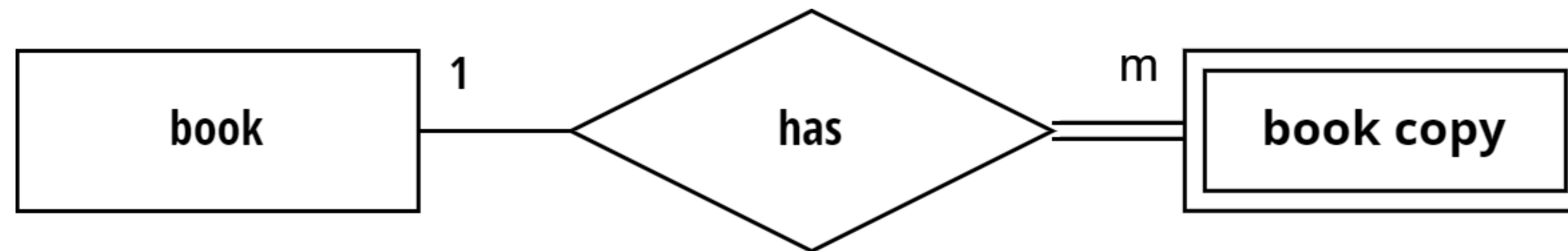
book copy
entity set



Book - Book Copy Relationship

A partial participation is represented using a **single solid line** from the entity towards the relationship.

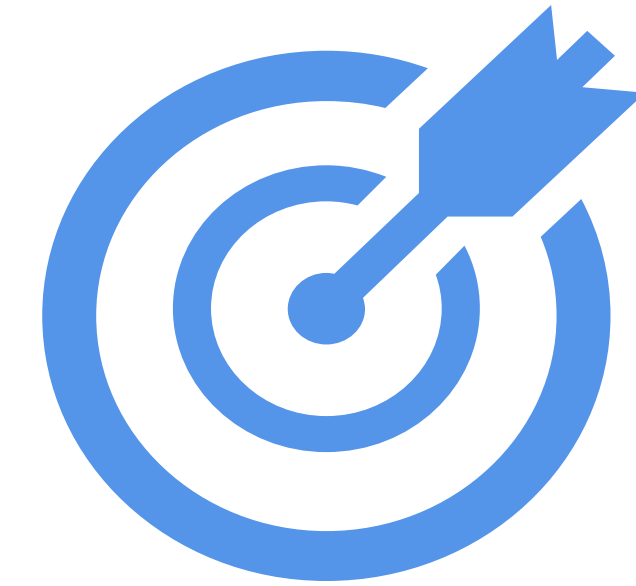
A total participation is represented using a **double solid line** from the entity towards the relationship.



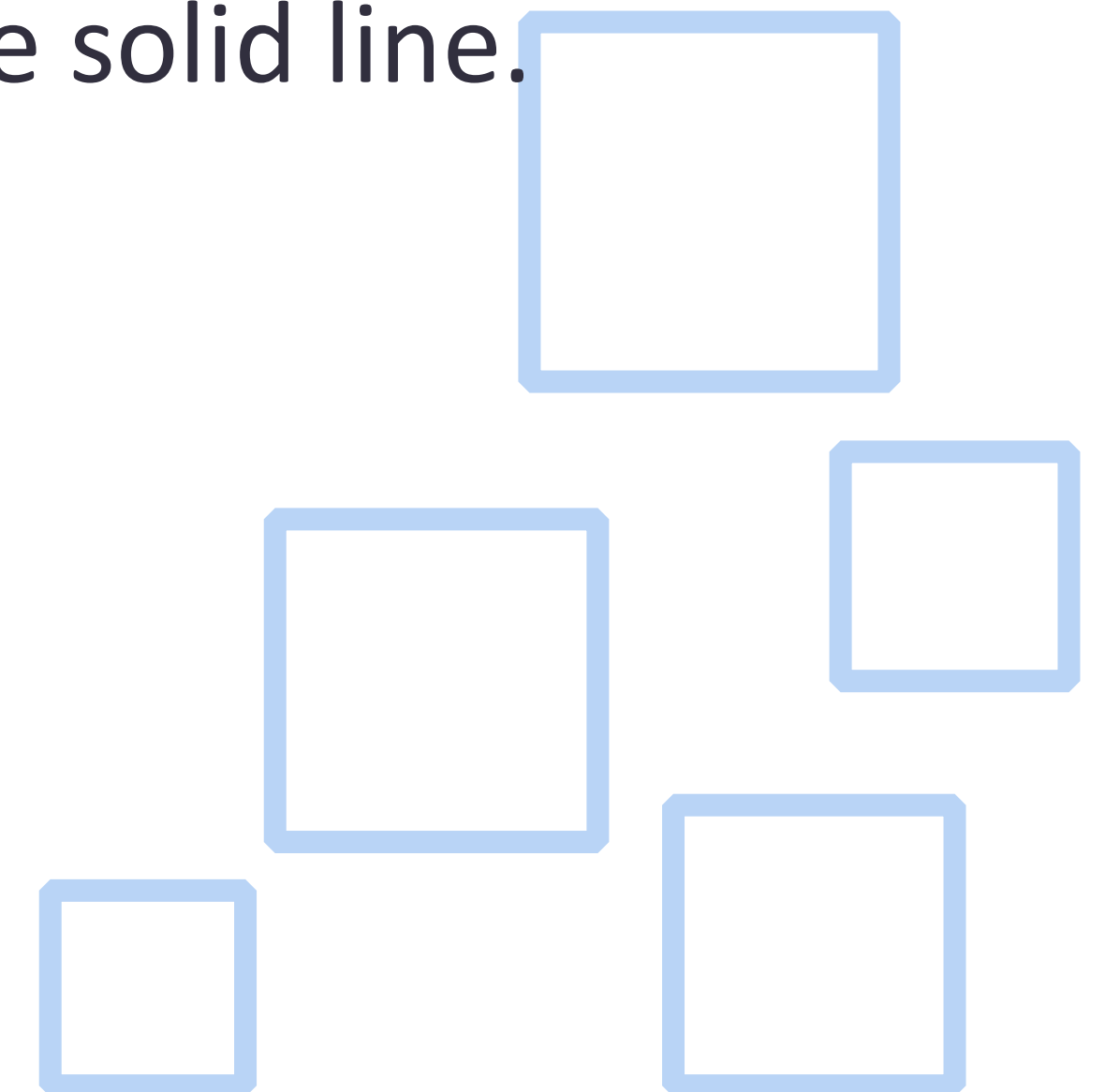
The book entity does not have to participate in the relationship.
But, every book copy must participate in the relationship.

Conclusion

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- ✓ An entity might be partially or totally participate in a relationship.
- ✓ A partial (optional) participation is represented using a single solid line.
- ✓ A total participation is represented using a double solid line.



References

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- R, Elmasri, et. al., Fundamentals of Database Systems.
- A. Silberschatz, et. al., Database System Concepts.
- R. K. Rainer, et. al., Introduction to Information Systems.
- G. M. Marakas et. al., Introduction to Information Systems: Essentials for The e-Business Enterprise.

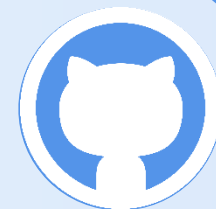


Course



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