



**Kampus
Merdeka**
INDONESIA JAYA



Attribute: Role and Types

Bachelor of Information Systems

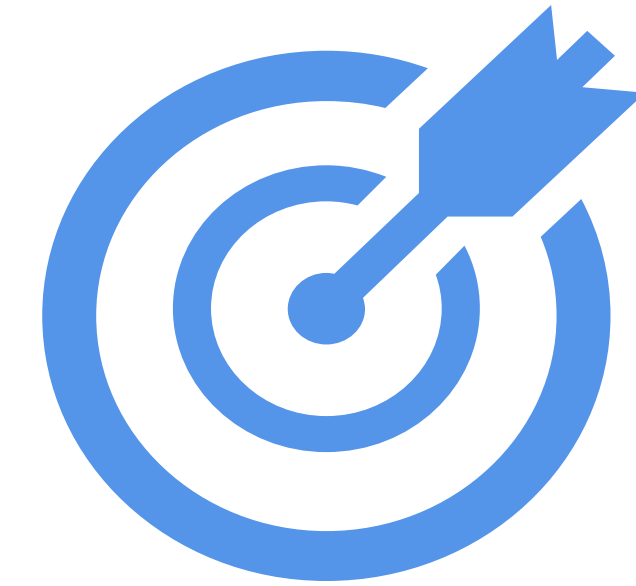


INTRODUCTION TO
DATABASE AND INFORMATION SYSTEM



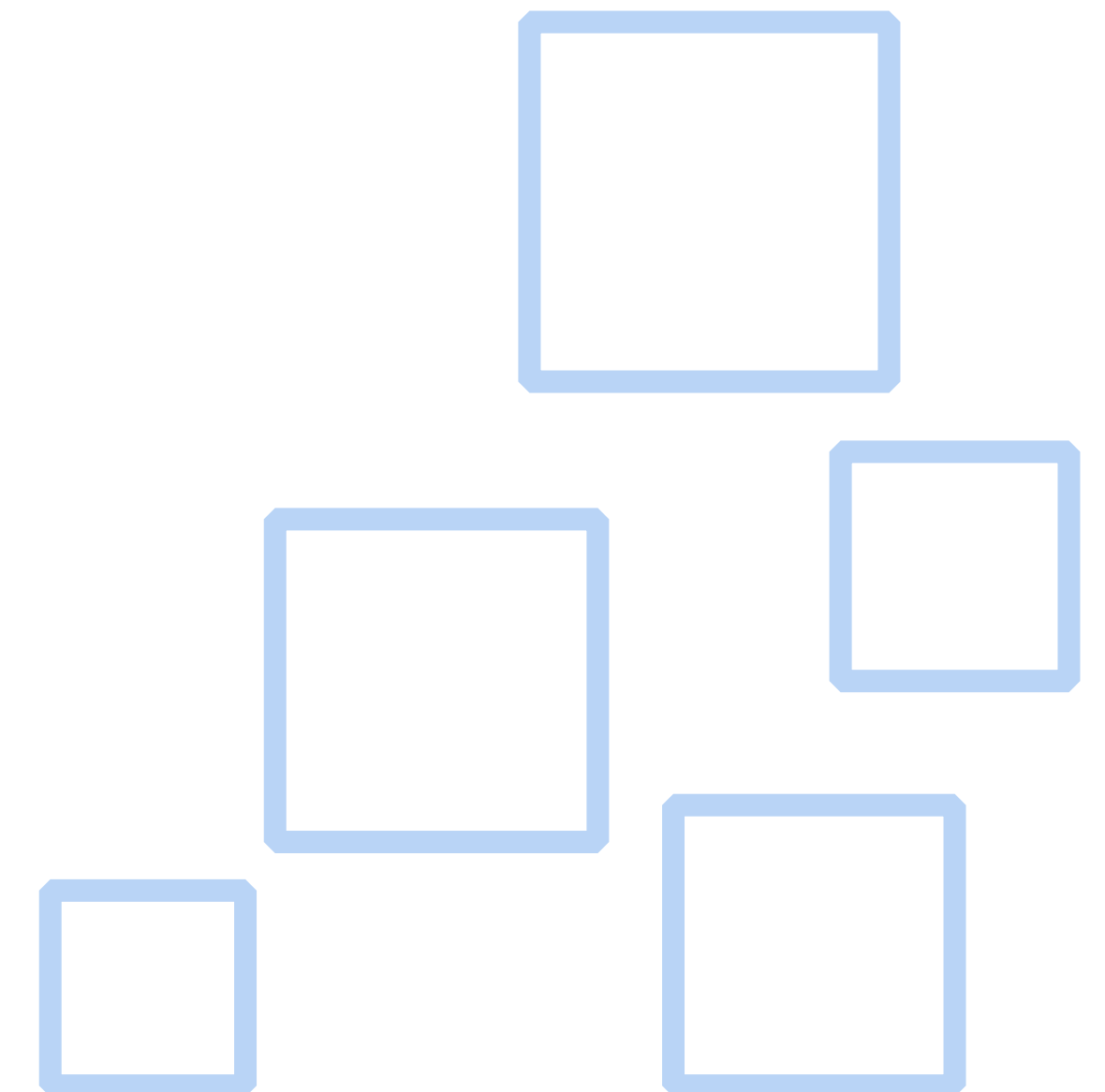
Learning Objective(s)

.....



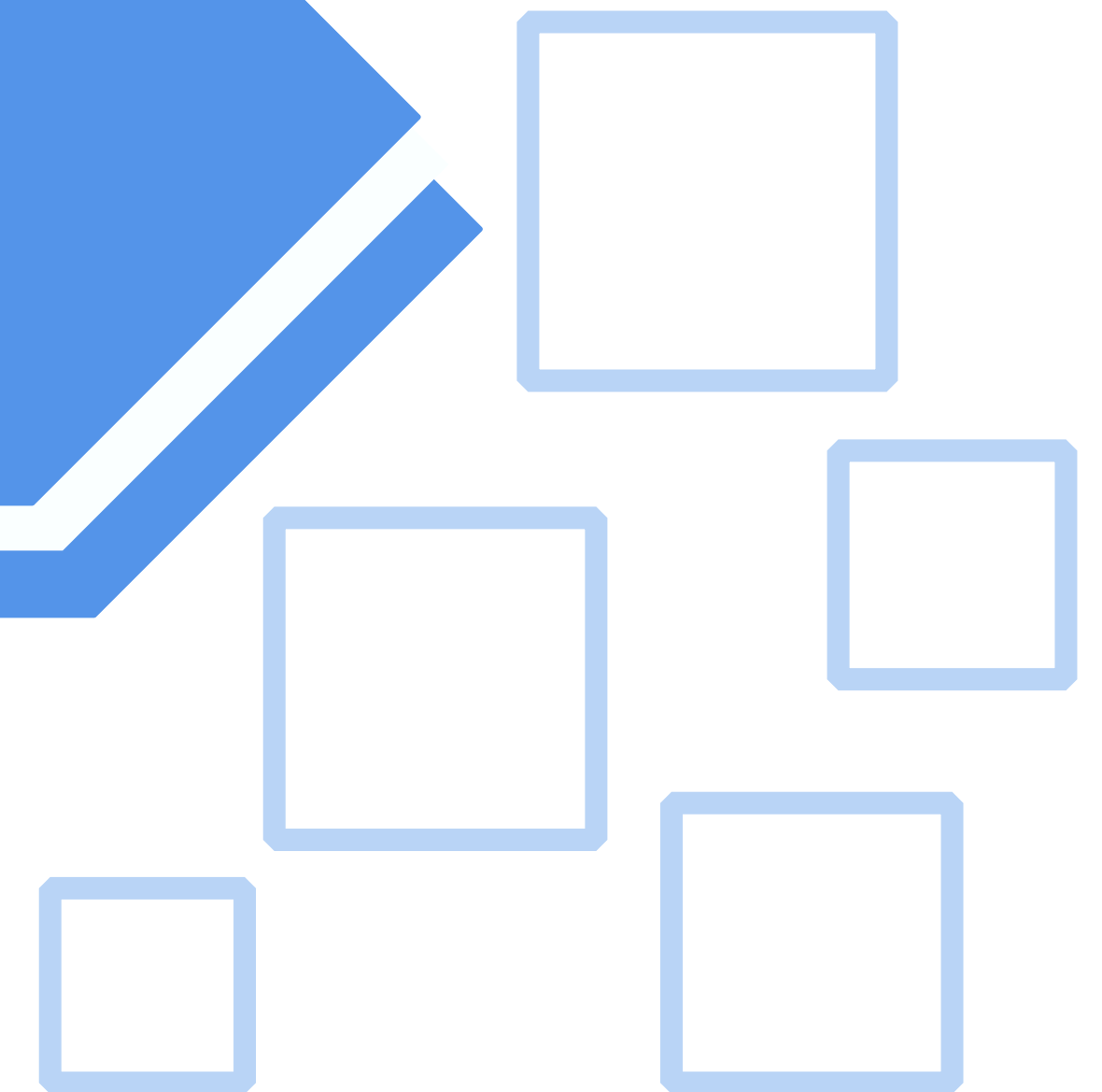
This material should address the following question(s).

- ? What is the main role of an attribute?
- ? What are the types of attribute?



The role of an attribute

The main role of an attribute is to describe an entity, a relationship, or another attribute.



Case Study



Inside the campus library.



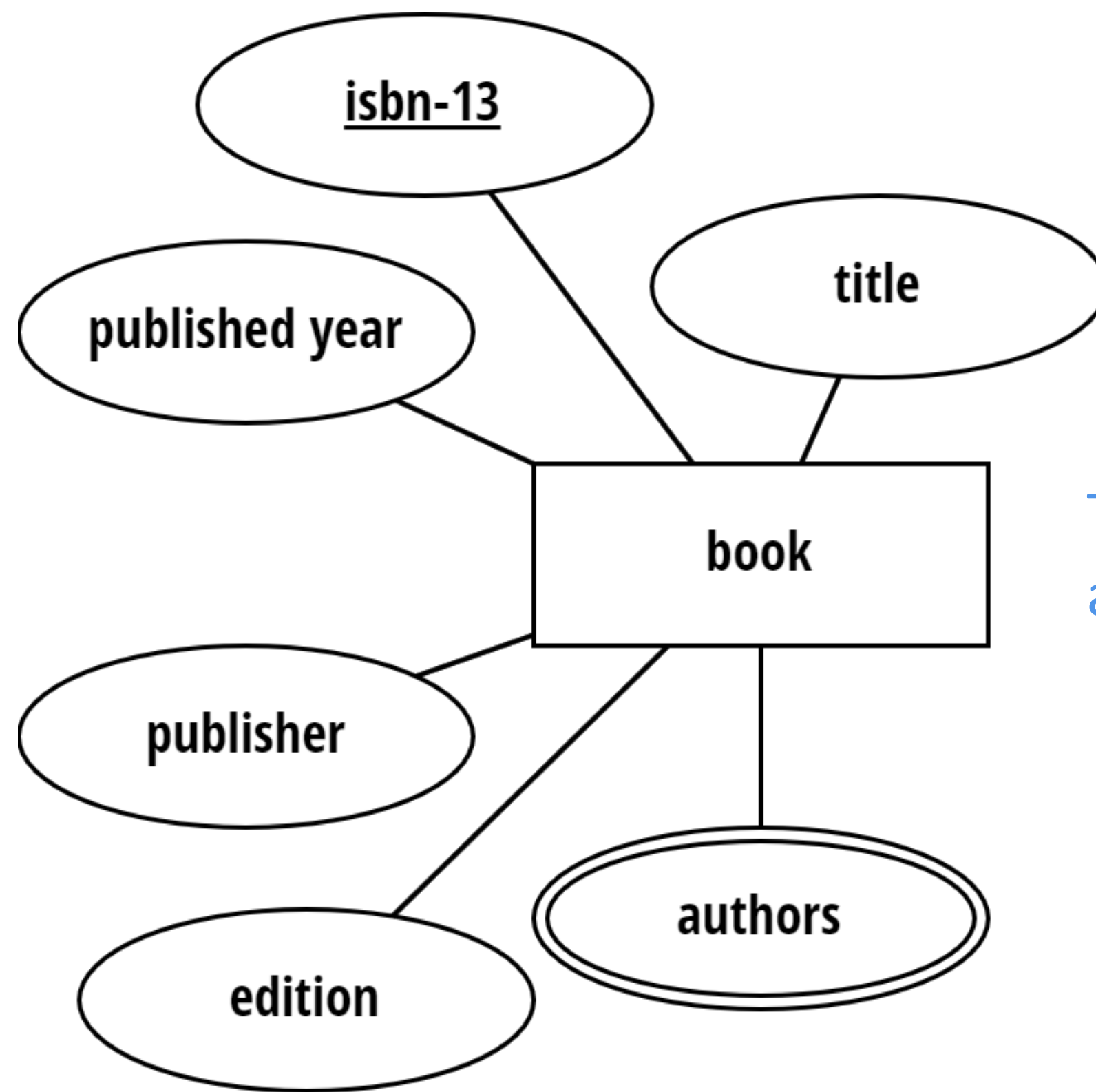
Case Study

- 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.

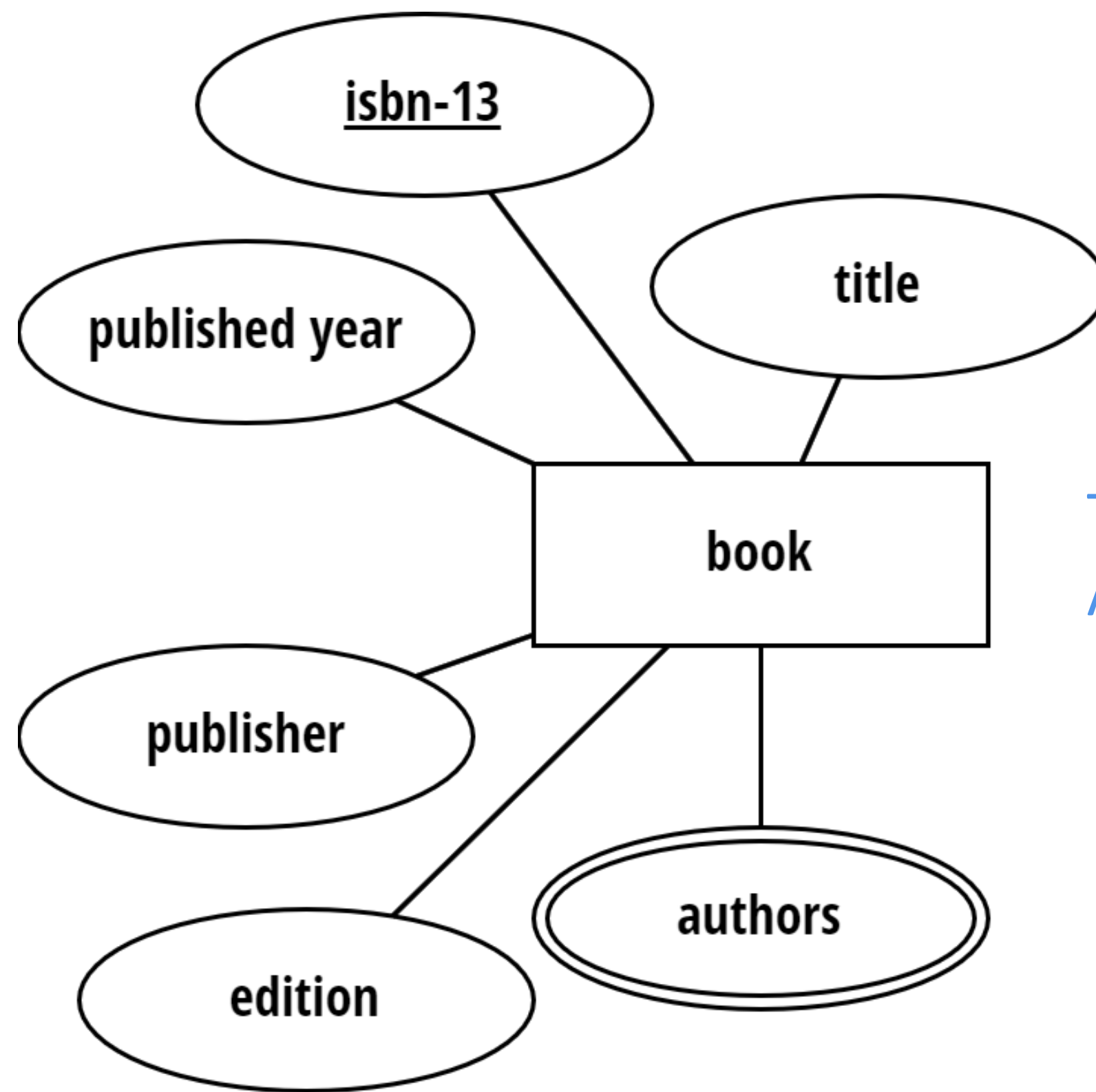
Inside the campus library.



**The 1st type of attribute is
ordinary attribute.**



The isbn-13, title, publisher, published year, and edition are **ordinary** attributes.



The authors attribute is a **multivalued** attribute.
A book might be written by multiple authors.

**The 2nd type of attribute is
multivalued attribute.**

**The 3rd type of attribute is
composite attribute.**

Case Study

Inside the campus library.

- 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.

**What attributes
are needed
to describe
a member**



Case Study

Inside the campus library.

- a name;
- an email;
- a phone number;
- an address;

**What attributes
are needed
to describe
a member**



Case Study

Inside the campus library.

- a name;
- an email;
- a phone number;
- an address;
 - province + regency + local address

**What attributes
are needed
to describe
a member**



Case Study

Inside the campus library.

- a name;
- an email;
- a phone number;
- an address;
 - province + regency + local address
- Do you find any **natural key**?

**What attributes
are needed
to describe
a member**



Case Study

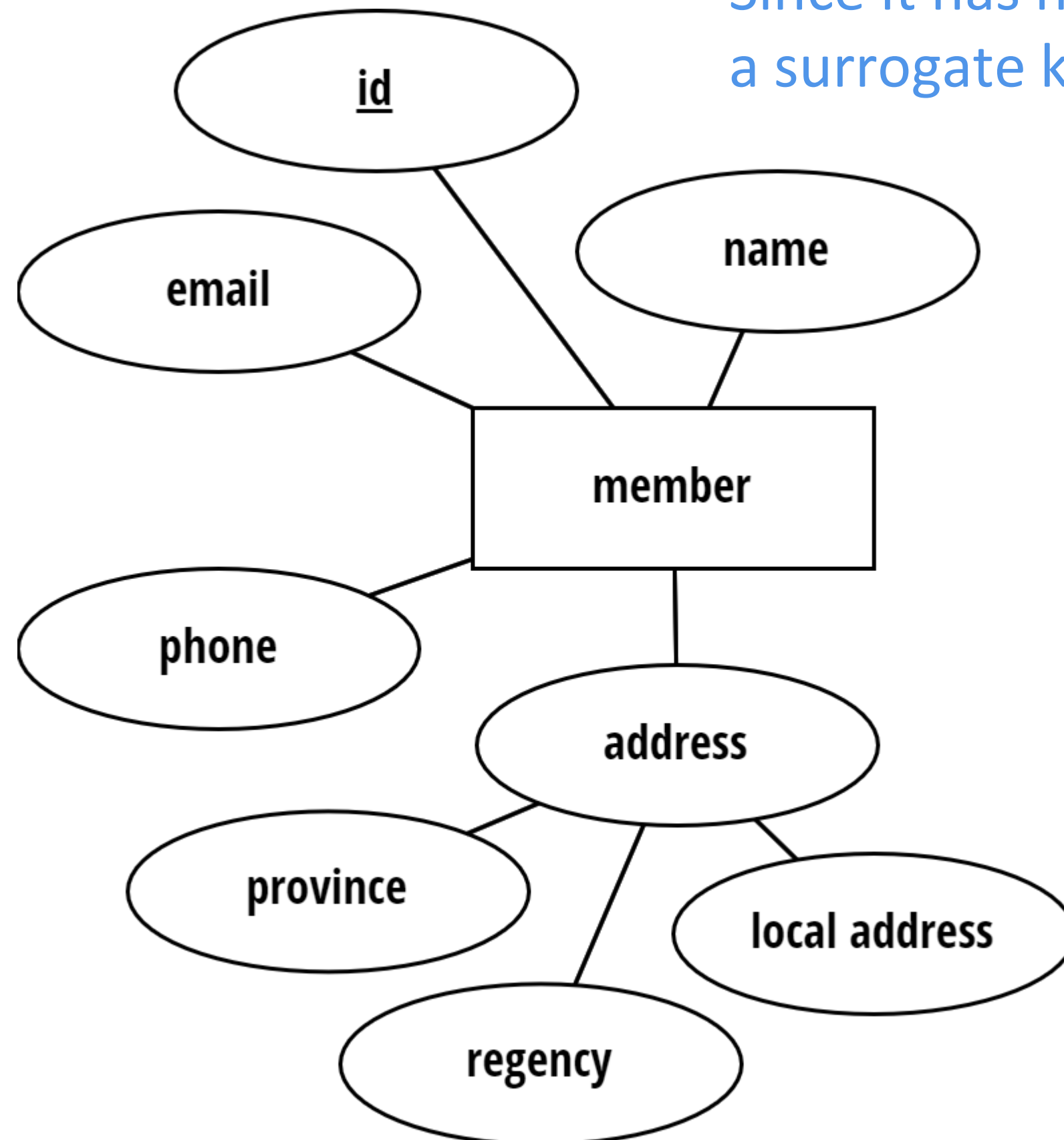
Inside the campus library.

- a name;
- an email;
- a phone number;
- an address;
 - province + regency + local address
- Natural key is **unavailable**.
 - A **surrogate key** is needed. id?

**What attributes
are needed
to describe
a member**

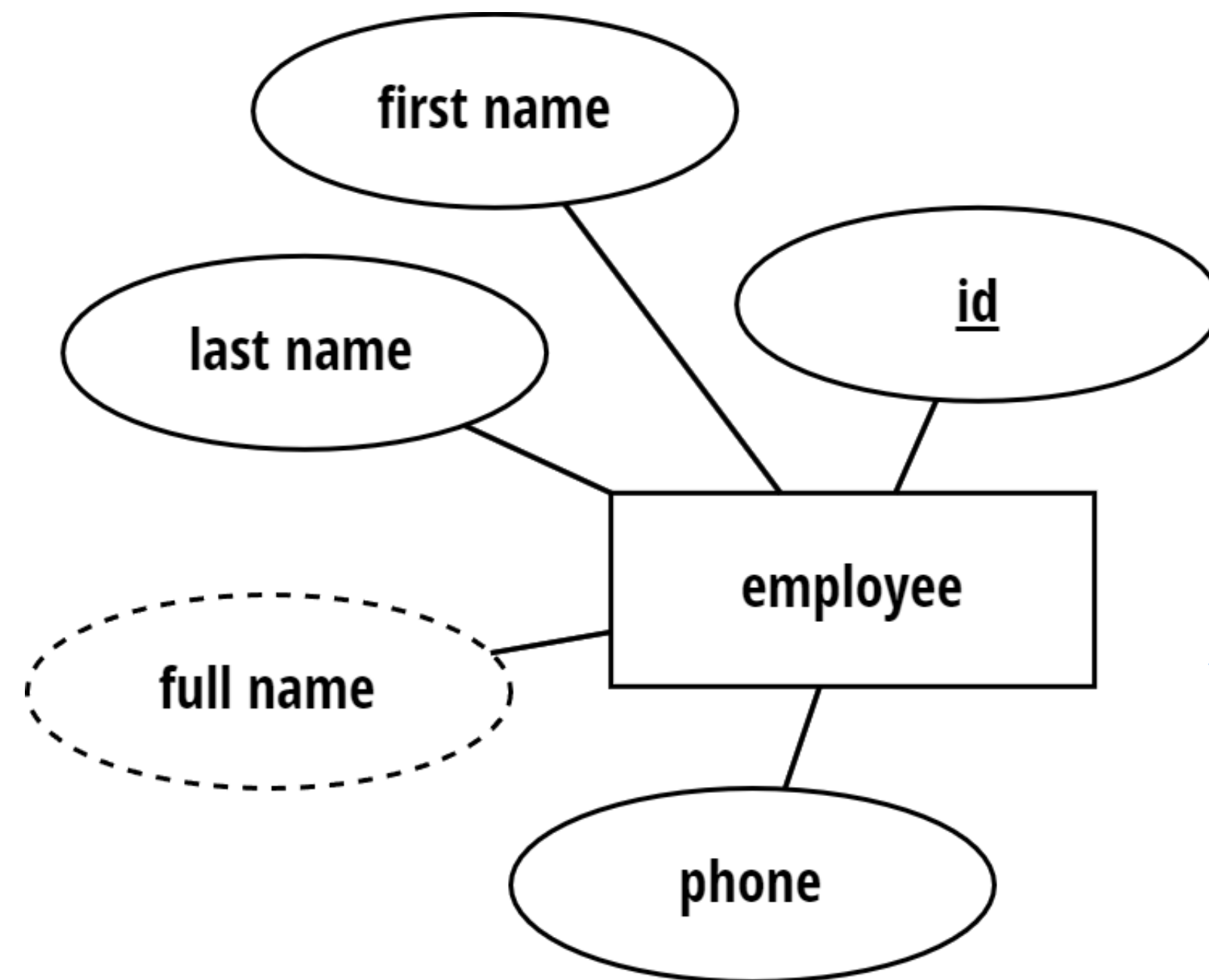


Since it has no natural key available,
a surrogate key is introduced, id.



The address is a **composite** attribute.
It can be described with province, regency,
and local address attributes

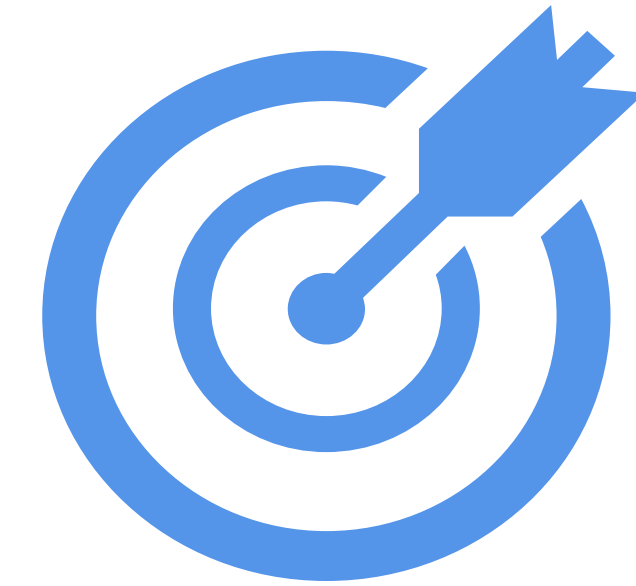
The 4th type of attribute is
derived attribute.



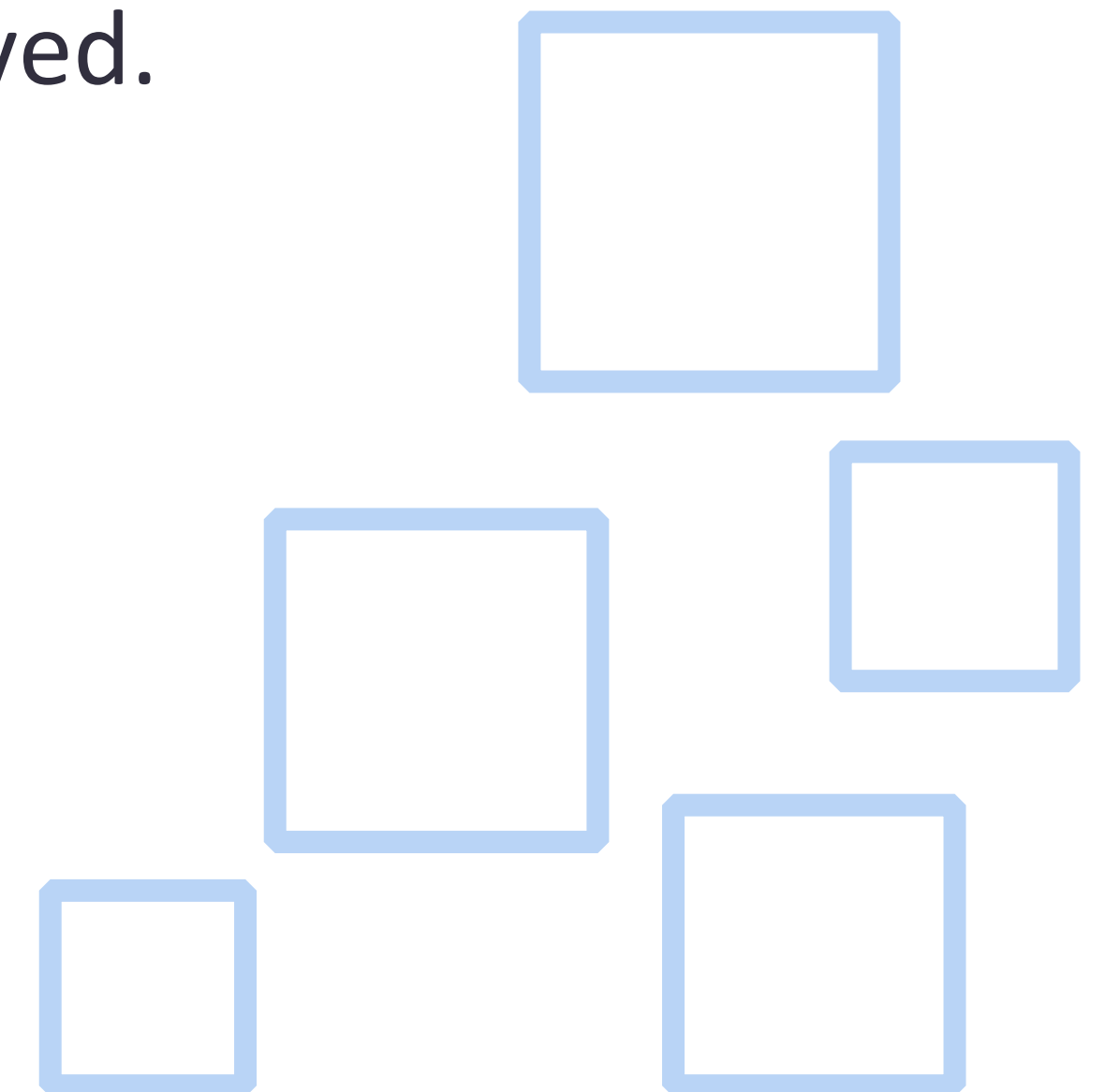
In this case, the full name attribute is a derived attribute.
A combined of the first name and last name attributes.

Conclusion

.....



- ✓ The role of attribute is to describe an entity, a relationship, or another attribute.
- ✓ Types of attribute are ordinary, multivalued, composite, and derived.



References

.....



- 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.

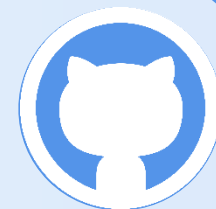


Course



Mario E. S. Simaremare

@simaremare



Lecturer



Samuel I. G. Situmeang

@exemuel

