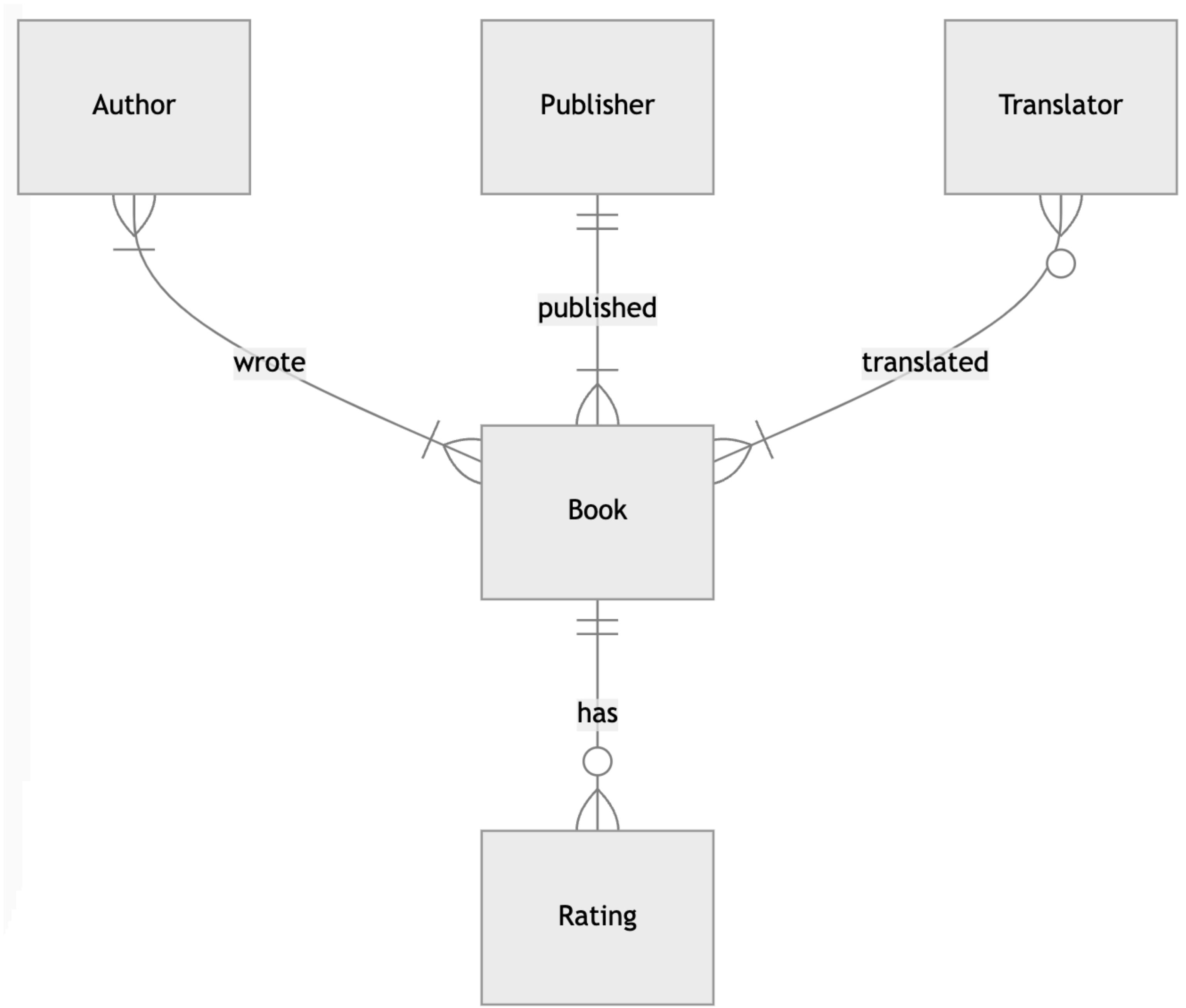


# Introduction to **Databases with SQL**

Viewing



# The Booker Prizes



## authors

<b>id</b>	<b>name</b>
23	Eva Baltasar
31	Han Kang
27	Gauz
58	Olga Tokarczuk

## authored

<b>author_id</b>	<b>book_id</b>
23	1
31	74
27	4
58	78

## books

<b>id</b>	<b>title</b>
1	Boulder
74	The White Book
4	Standing Heavy
78	Flights

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Gauz	27	27	4	4	Standing Heavy
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# View

A virtual table defined by a query

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Han Kang	The White Book
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Simplifying

Aggregating

Partitioning

Securing

...

# Simplifying

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name	id	author_id	book_id	id	title
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Olga Tokarczuk	58	58	78	78	Flights

name	title
Eva Baltasar	Boulder
Han Kang	The White Book
Gauz	Standing Heavy
Olga Tokarczuk	Flights

SELECT ...;

CREATE VIEW name AS

SELECT ...;

# Aggregating

book_id	rating
1	4
1	3
1	4
2	2
2	3

book_id	rating
1	4
1	3
1	4
2	2
2	3

book_id	rating
1	4
2	3

book_id	rating
1	3.67
2	2.5

CREATE VIEW ...

CREATE TEMPORARY VIEW ...

# CTE

## Common Table Expression

```
WITH name AS (
    SELECT ...
),
...
SELECT ... FROM name;
```

# Partitioning

# books

<b>id</b>	<b>title</b>	<b>year</b>
1	Boulder	2023
2	Whale	2023
14	Paradais	2022
23	After the Sun	2022
34	Minor Detail	2021
39	The Perfect Nine	2021

# books

<b>id</b>	<b>title</b>	<b>year</b>
1	Boulder	2023
2	Whale	2023
14	Paradais	2022
23	After the Sun	2022
34	Minor Detail	2021
39	The Perfect Nine	2021

# books

<b>id</b>	<b>title</b>	<b>year</b>
1	Boulder	2023
2	Whale	2023
14	Paradais	2022
23	After the Sun	2022
34	Minor Detail	2021
39	The Perfect Nine	2021

# books

<b>id</b>	<b>title</b>	<b>year</b>
1	Boulder	2023
2	Whale	2023
14	Paradais	2022
23	After the Sun	2022
34	Minor Detail	2021
39	The Perfect Nine	2021

# Securing

# rides

<b>id</b>	<b>origin</b>	<b>destination</b>	<b>rider</b>
1	Good Egg Galaxy	Honeyhive Galaxy	Peach
2	Castle Courtyard	Cascade Kingdom	Mario
3	Metro Kingdom	Mushroom Kingdom	Luigi
4	Seaside Kingdom	Deep Woods	Bowser

# rides

<b>id</b>	<b>origin</b>	<b>destination</b>
1	Good Egg Galaxy	Honeyhive Galaxy
2	Castle Courtyard	Cascade Kingdom
3	Metro Kingdom	Mushroom Kingdom
4	Seaside Kingdom	Deep Woods

# Soft Deletions



71541 MUSEUM OF FINE ARTS, BOSTON, MASS.

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# collections

<b>id</b>	<b>title</b>	<b>deleted</b>
1	Farmers working ...	0
2	Imaginative land...	0
3	Profusion of ...	0
4	Peonies and ...	0

# collections

id	title	deleted
1	Farmers working ...	1
2	Imaginative land...	0
3	Profusion of ...	0
4	Peonies and ...	0

```
SELECT * FROM "collections"  
WHERE "deleted" = 0;
```

# collections

<b>id</b>	<b>title</b>	<b>deleted</b>
1	Farmers working ...	0
2	Imaginative land...	0
3	Profusion of ...	0
4	Peonies and ...	0

# current\_collections

<b>id</b>	<b>title</b>
1	Farmers working ...
2	Imaginative land...
3	Profusion of ...
4	Peonies and ...

# collections

<b>id</b>	<b>title</b>	<b>deleted</b>
1	Farmers working ...	0
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## current\_collections

<b>id</b>	<b>title</b>
2	Imaginative land...
3	Profusion of ...
4	Peonies and ...

CREATE TRIGGER name

CREATE TRIGGER name

INSTEAD OF DELETE ON view

CREATE TRIGGER name

INSTEAD OF DELETE ON view

FOR EACH ROW

CREATE TRIGGER name

INSTEAD OF DELETE ON view

FOR EACH ROW

BEGIN

CREATE TRIGGER name

INSTEAD OF DELETE ON view

FOR EACH ROW

BEGIN

...;  
;

CREATE TRIGGER name

INSTEAD OF DELETE ON view

FOR EACH ROW

BEGIN

...;

END;

CREATE TRIGGER name

INSTEAD OF INSERT ON view

FOR EACH ROW

BEGIN

...;

END;

CREATE TRIGGER name

INSTEAD OF INSERT ON view

FOR EACH ROW WHEN condition

BEGIN

...;

END;

## collections

<b>id</b>	<b>title</b>	<b>deleted</b>
1	Farmers working ...	1
2	Imaginative land...	0
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