

A modern conference room with large windows and a long table. The room is empty, with several chairs arranged around a long, dark wooden table. The windows offer a view of a cityscape and a body of water. The ceiling is white with recessed lighting. The floor is covered in a dark carpet. The overall atmosphere is professional and clean.

Relationships

Relationships

● Relationships

relationships tell you how much of the data from a foreign key field can be seen in the primary key column of the table the data is related to and vice versa

Relationships

Sales			
purchase_number	date_of_purchase	customer_id	item_code
1	9/3/2016	1	A_1
2	12/2/2016	2	C_1
3	4/15/2017	3	D_1
4	5/24/2017	1	B_2
5	5/25/2017	4	B_2
6	6/6/2017	2	B_1
7	6/10/2017	4	A_2
8	6/13/2017	3	C_1
9	7/20/2017	1	A_1
10	8/11/2017	2	B_1

Customers				
customer_id	first_name	last_name	email_address	number_of_complaints
1	John	McKinley	john.mackinley@365careers.com	0
2	Elizabeth	McFarlane	e.mcfarlane@365careers.com	2
3	Kevin	Lawrence	kevin.lawrence@365careers.com	1
4	Catherine	Winnfield	c.winnfield@365careers.com	0

Relationships

Sales			
purchase_number	date_of_purchase	customer_id	item_code
1	9/3/2016	1	A_1
2	12/2/2016	2	C_1
3	4/15/2017	3	D_1
4	5/24/2017	1	B_2
5	5/25/2017	4	B_2
6	6/6/2017	2	B_1
7	6/10/2017	4	A_2
8	6/13/2017	3	C_1
9	7/20/2017	1	A_1
10	8/11/2017	2	B_1

Customers				
customer_id	first_name	last_name	email_address	number_of_complaints
1	John	McKinley	john.mackinley@365careers.com	0
2	Elizabeth	McFarlane	e.mcfarlane@365careers.com	2
3	Kevin	Lawrence	kevin.lawrence@365careers.com	1
4	Catherine	Winnfield	c.winnfield@365careers.com	0

Relationships

Sales			
purchase_number	date_of_purchase	customer_id	item_code
1	9/3/2016	1	A_1
2	12/2/2016	2	C_1
3	4/15/2017	3	D_1
4	5/24/2017	1	B_2
5	5/25/2017	4	B_2
6	6/6/2017	2	B_1
7	6/10/2017	4	A_2
8	6/13/2017	3	C_1
9	7/20/2017	1	A_1
10	8/11/2017	2	B_1

Customers				
customer_id	first_name	last_name	email_address	number_of_complaints
1	John	McKinley	john.mackinley@365careers.com	0
2	Elizabeth	McFarlane	e.mcfarlane@365careers.com	2
3	Kevin	Lawrence	kevin.lawrence@365careers.com	1
4	Catherine	Winnfield	c.winnfield@365careers.com	0

unique values

Relationships

Sales			
purchase_number	date_of_purchase	customer_id	item_code
1	9/3/2016	1	A_1
2	12/2/2016	2	C_1
3	4/15/2017	3	D_1
4	5/24/2017	1	B_2
5	5/25/2017	4	B_2
6	6/6/2017	2	B_1
7	6/10/2017	4	A_2
8	6/13/2017	3	C_1
9	7/20/2017	1	A_1
10	8/11/2017	2	B_1

Customers				
customer_id	first_name	last_name	email_address	number_of_complaints
1	John	McKinley	john.mackinley@365careers.com	0
2	Elizabeth	McFarlane	e.mcfarlane@365careers.com	2
3	Kevin	Lawrence	kevin.lawrence@365careers.com	1
4	Catherine	Winnfield	c.winnfield@365careers.com	0

unique values

Relationships

Sales			
purchase_number	date_of_purchase	customer_id	item_code
1	9/3/2016	1	A_1
2	12/2/2016	2	C_1
3	4/15/2017	3	D_1
4	5/24/2017	1	B_2
5	5/25/2017	4	B_2
6	6/6/2017	2	B_1
7	6/10/2017	4	A_2
8	6/13/2017	3	C_1
9	7/20/2017	1	A_1
10	8/11/2017	2	B_1

Customers				
customer_id	first_name	last_name	email_address	number_of_complaints
1	John	McKinley	john.mackinley@365careers.com	0
2	Elizabeth	McFarlane	e.mcfarlane@365careers.com	2
3	Kevin	Lawrence	kevin.lawrence@365careers.com	1
4	Catherine	Winnfield	c.winnfield@365careers.com	0

unique values

repeated values

Relationships

Sales			
purchase_number	date_of_purchase	customer_id	item_code
1	9/3/2016	1	A_1
2	12/2/2016	2	C_1
3	4/15/2017	3	D_1
4	5/24/2017	1	B_2
5	5/25/2017	4	B_2
6	6/6/2017	2	B_1
7	6/10/2017	4	A_2
8	6/13/2017	3	C_1
9	7/20/2017	1	A_1
10	8/11/2017	2	B_1

repeated values

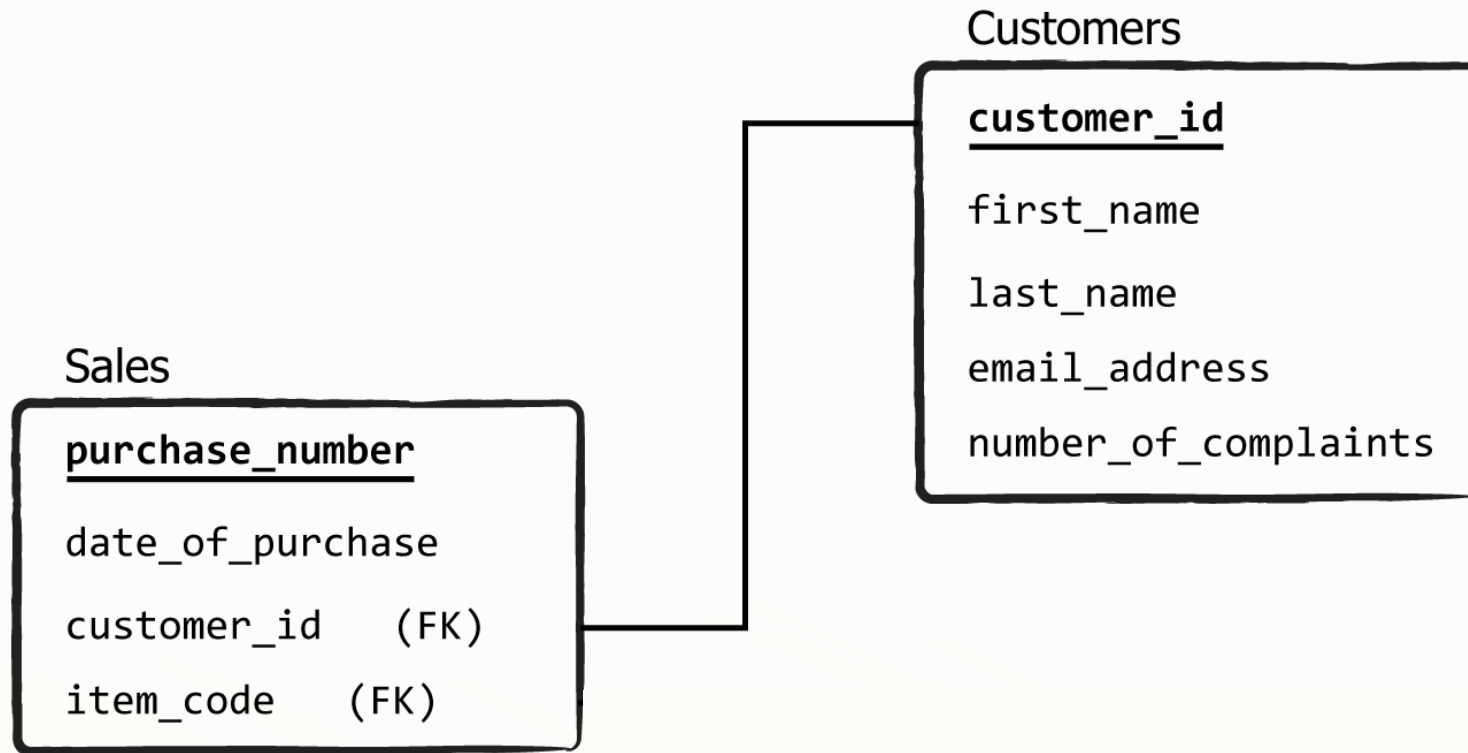
Customers				
customer_id	first_name	last_name	email_address	number_of_complaints
1	John	McKinley	john.mackinley@365careers.com	0
2	Elizabeth	McFarlane	e.mcfarlane@365careers.com	2
3	Kevin	Lawrence	kevin.lawrence@365careers.com	1
4	Catherine	Winnfield	c.winnfield@365careers.com	0

unique values

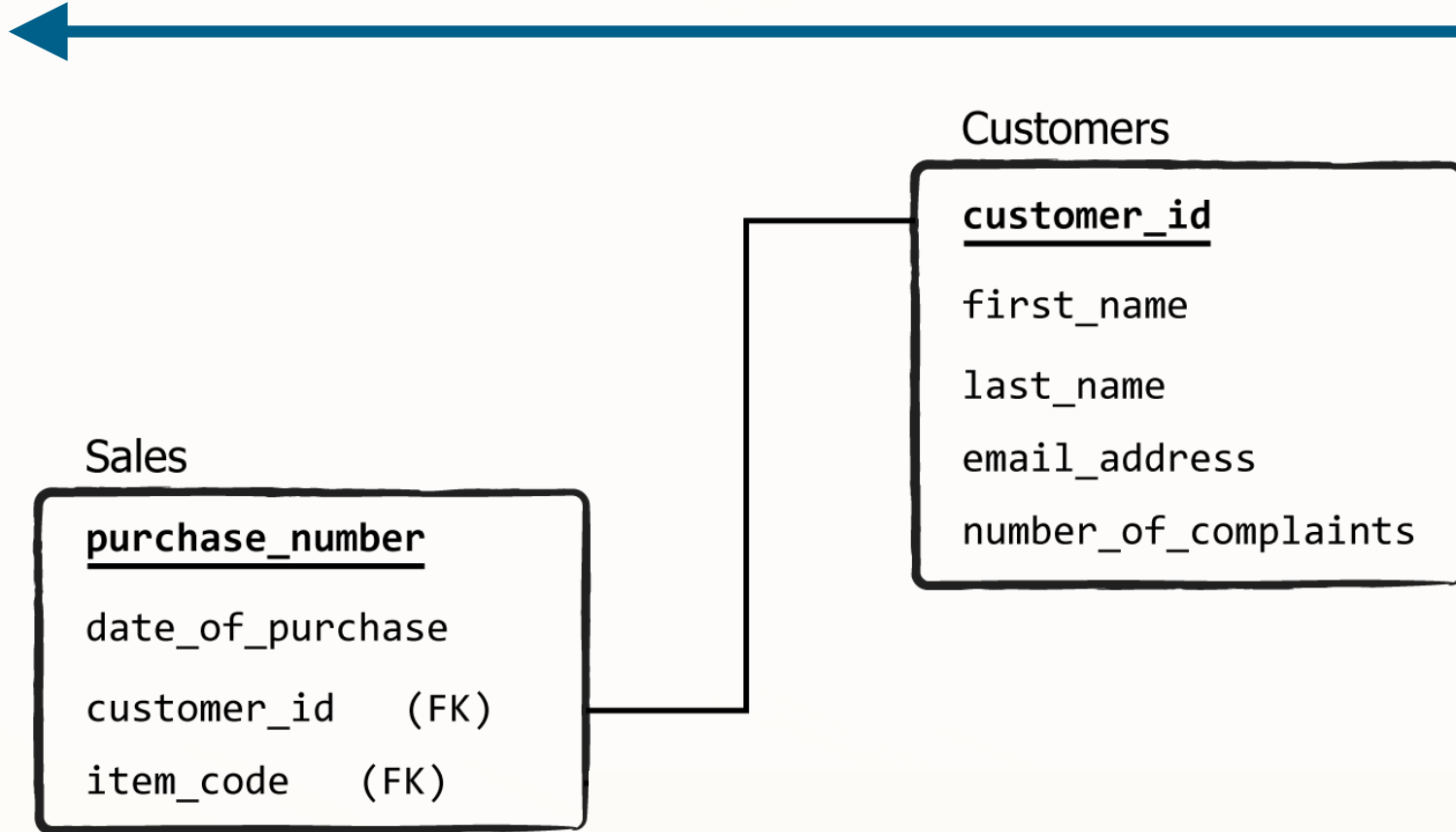
one-to-many type of relationship

one value from the customer_id column under the "Customers" table can be found **many** times in the customer_id column in the "Sales" table.

Relationships

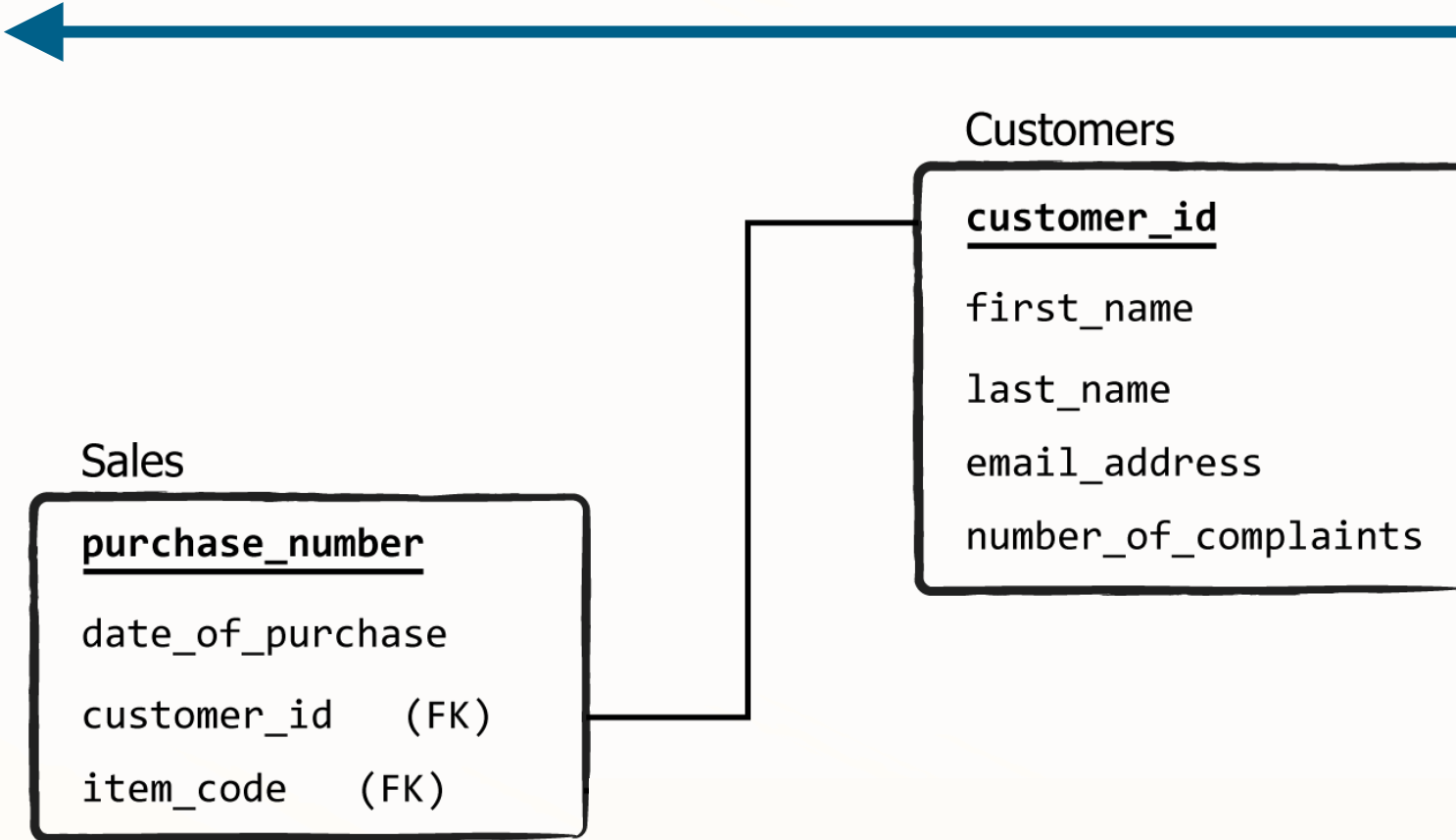


Relationships

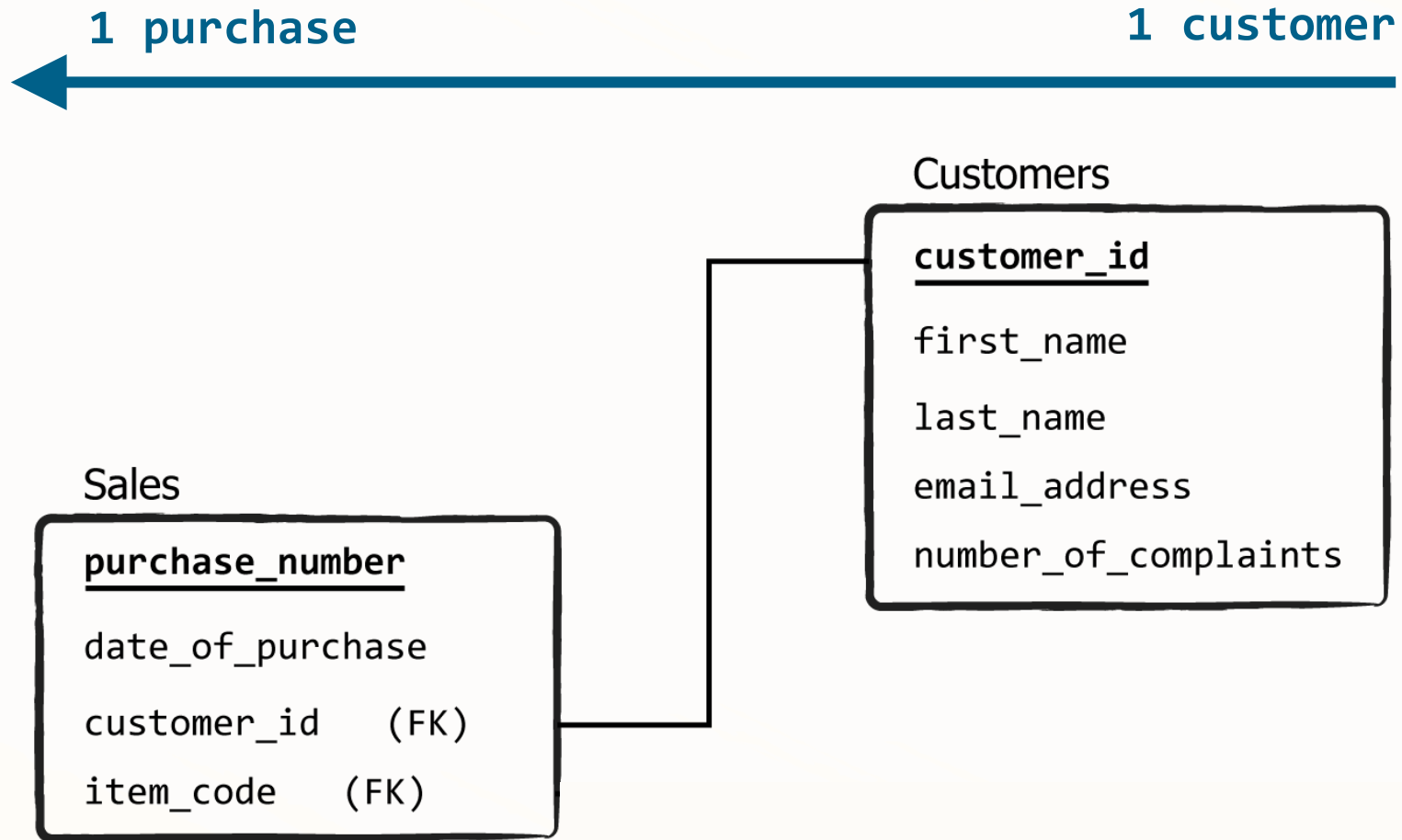


Relationships

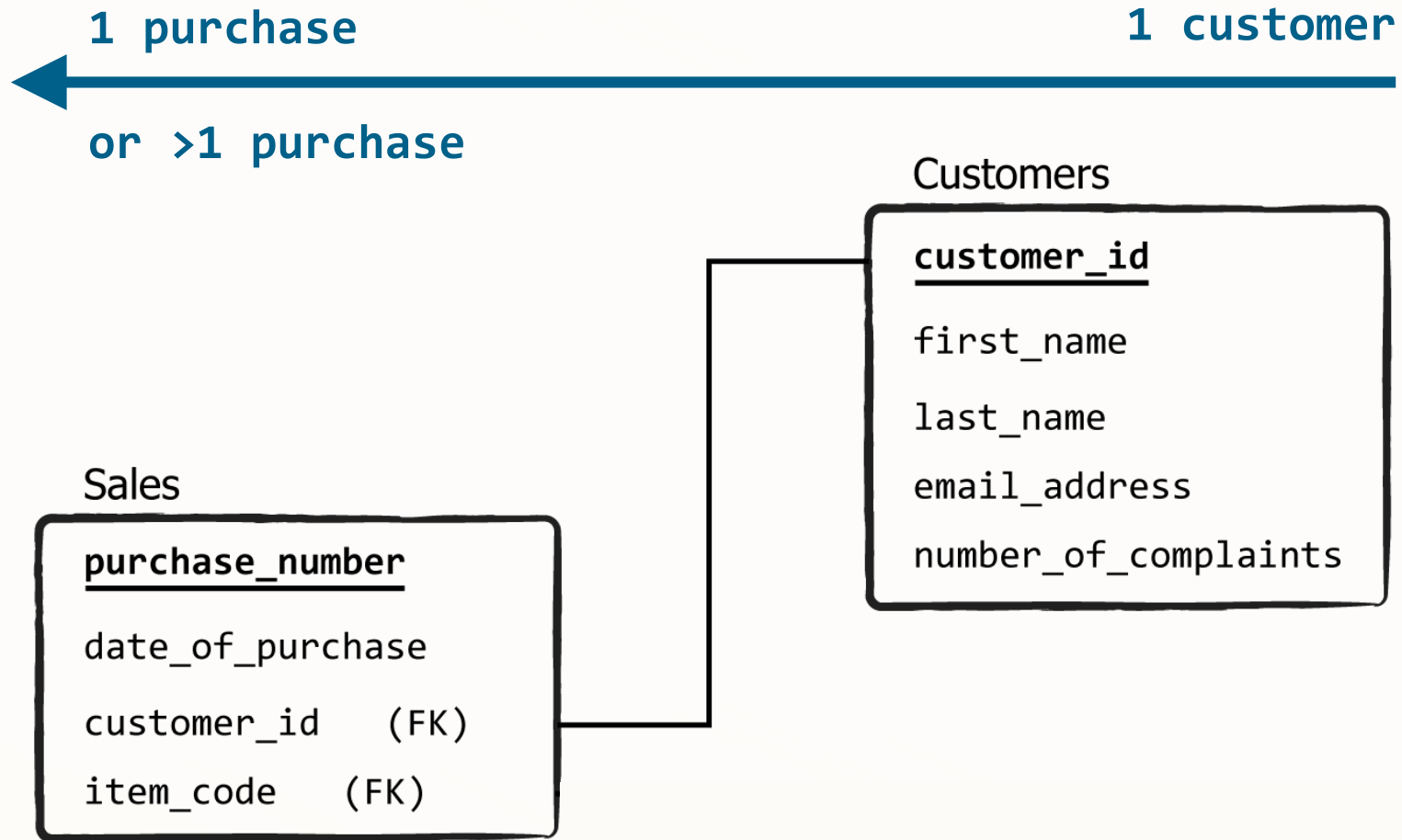
1 customer



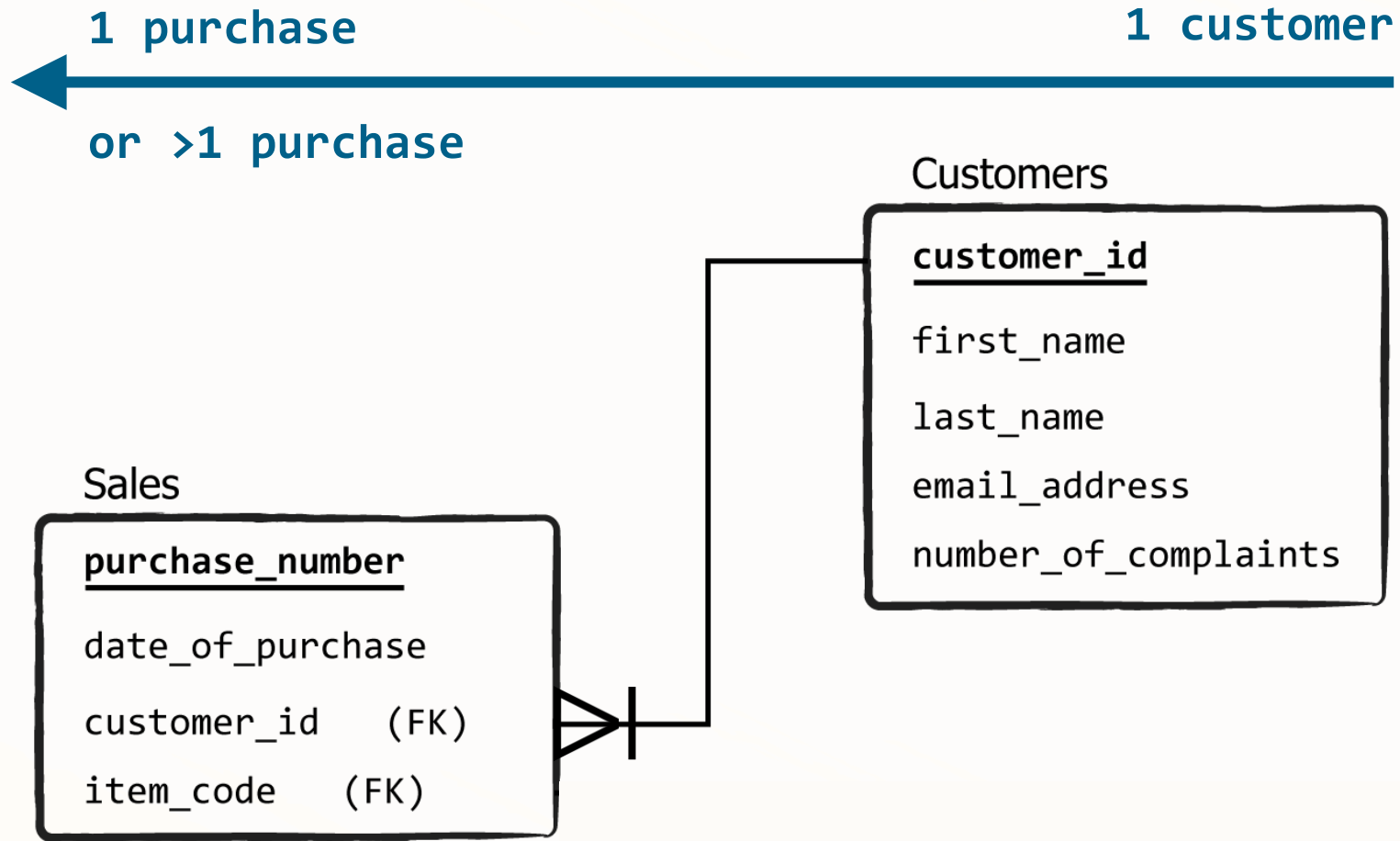
Relationships



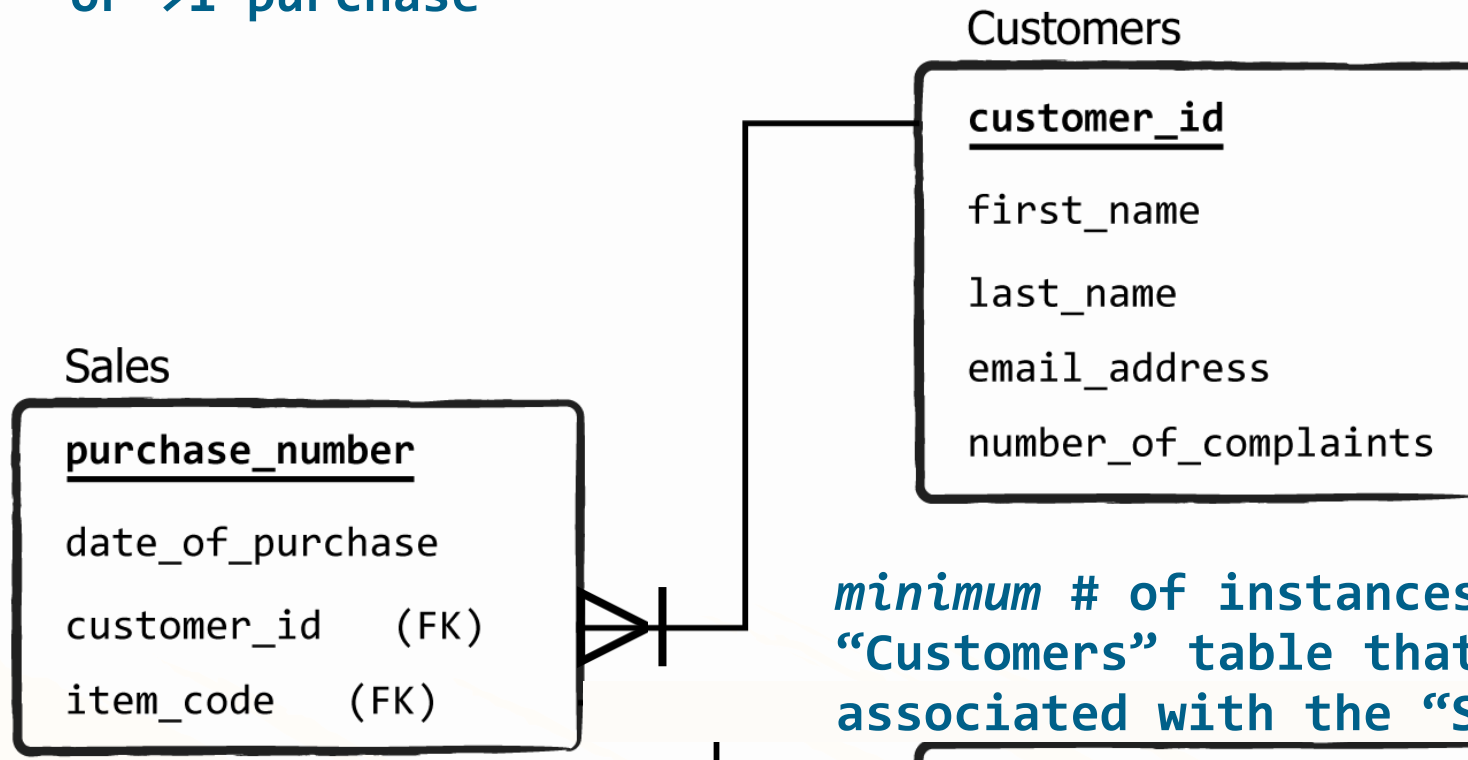
Relationships



Relationships



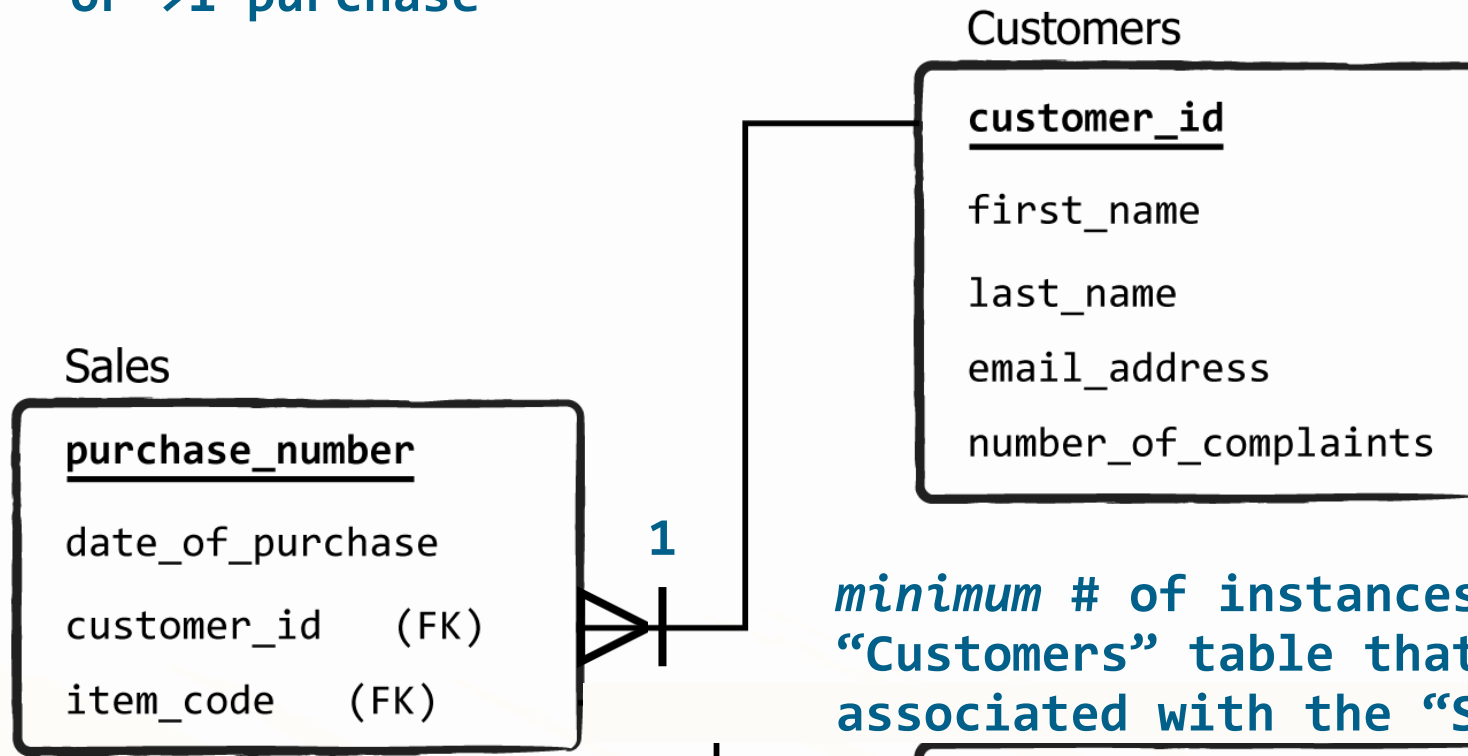
Relationships



Relationships

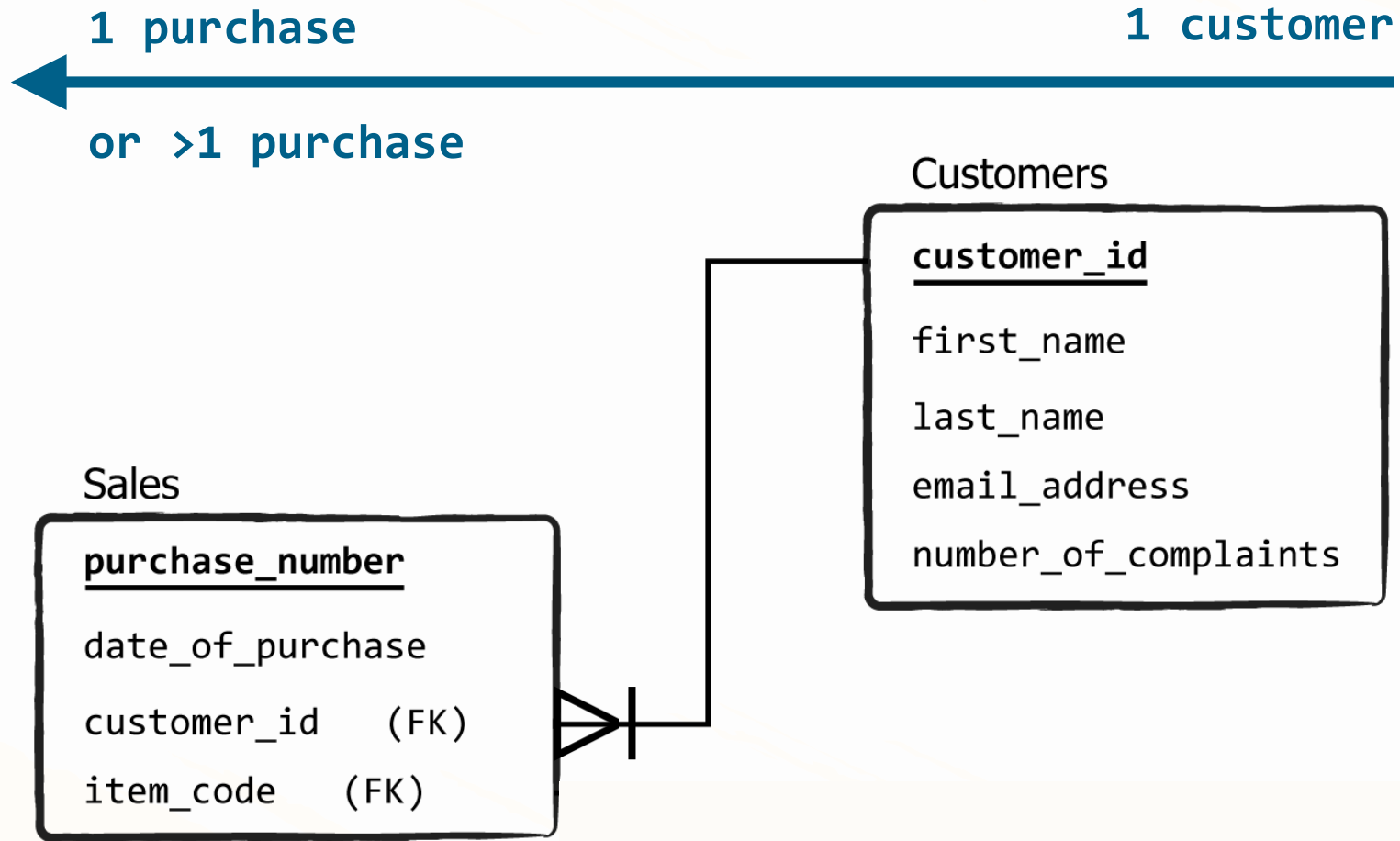
1 purchase
←
or >1 purchase

1 customer



minimum # of instances of the "Customers" table that can be associated with the "Sales" entity

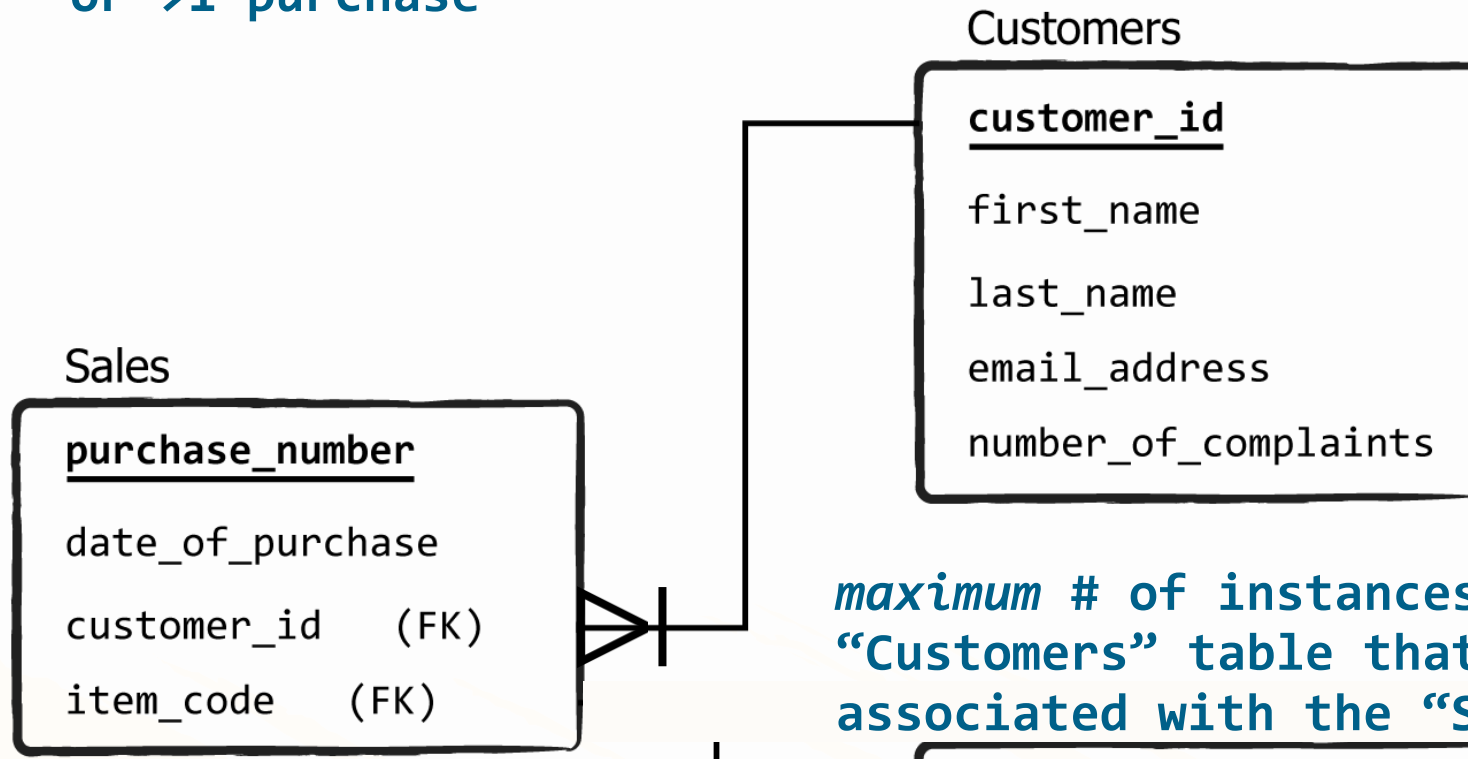
Relationships



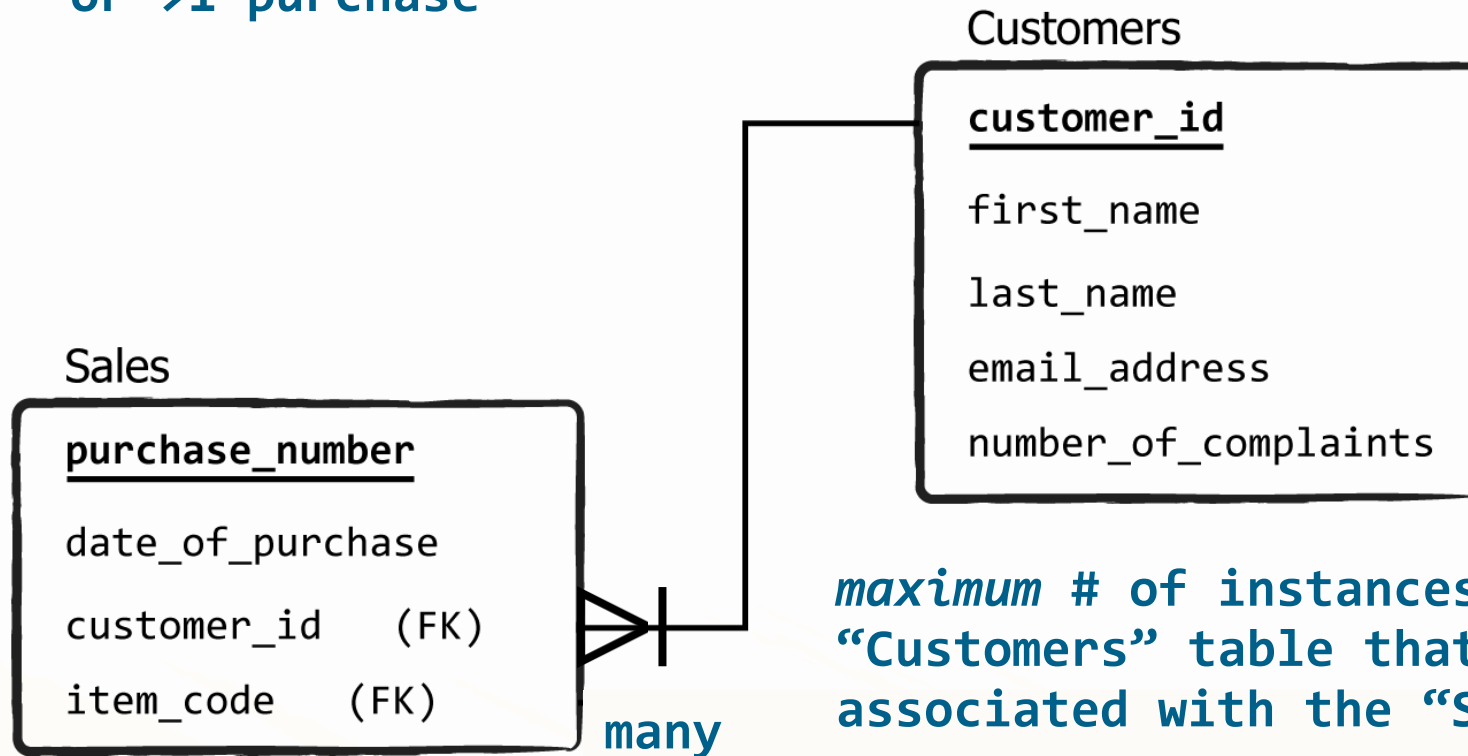
Relationships

1 purchase
←
or >1 purchase

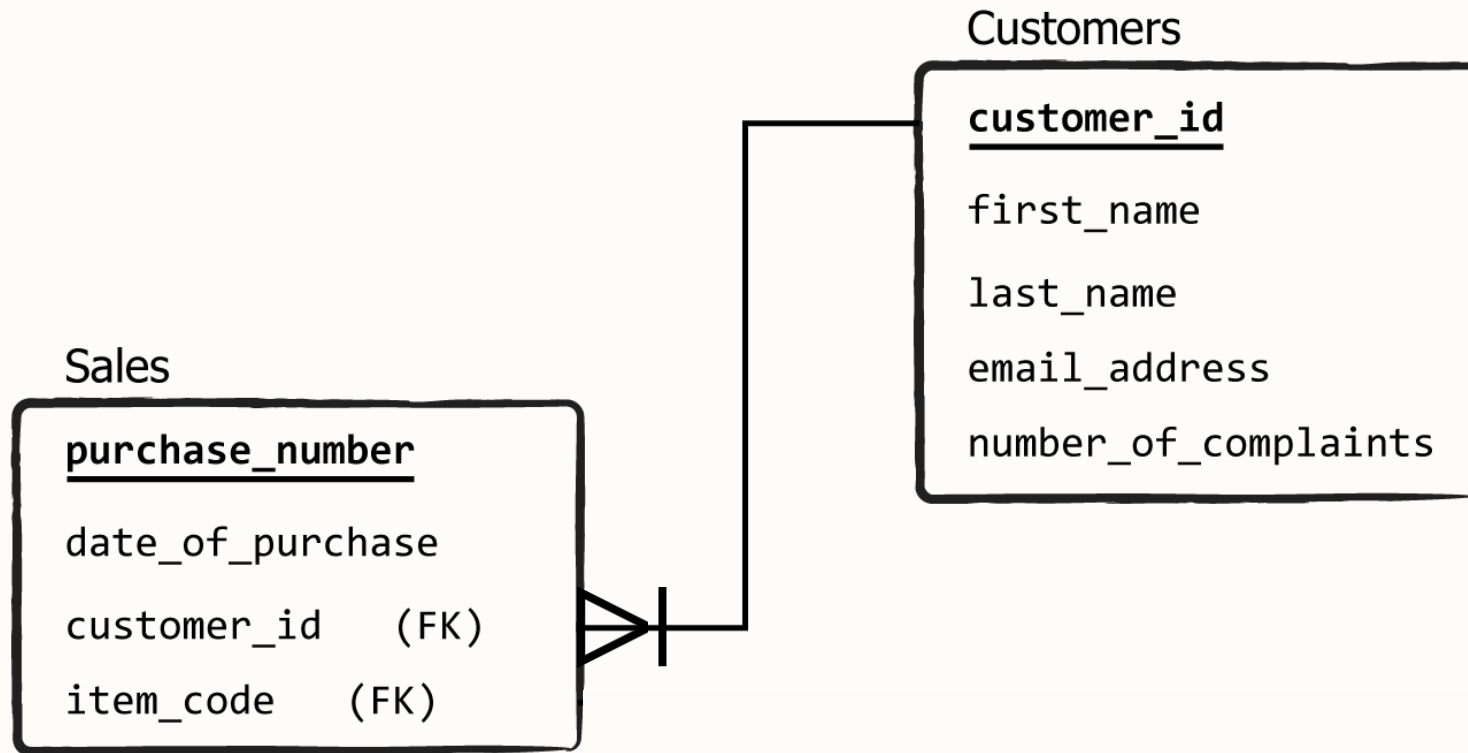
1 customer



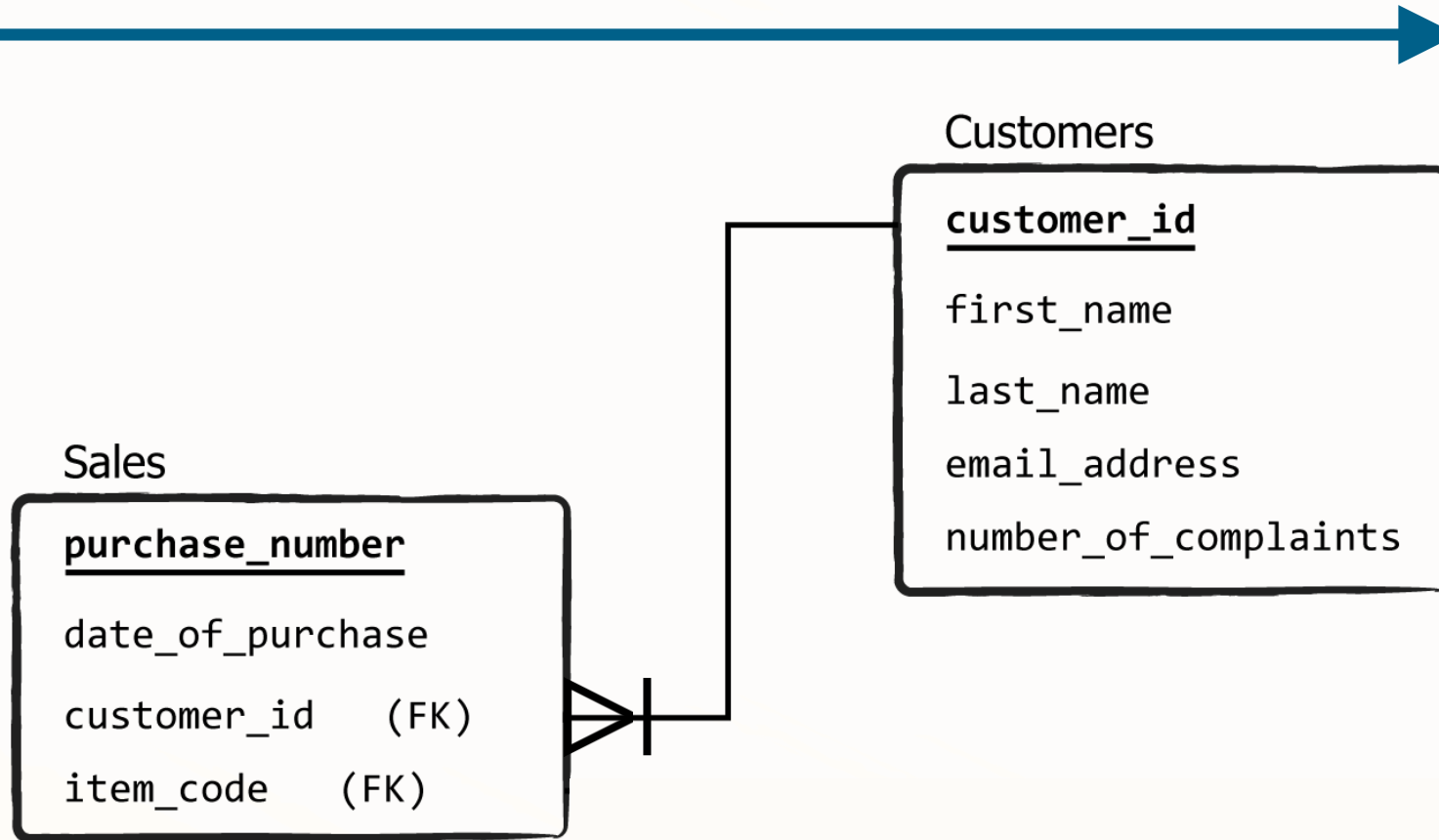
Relationships



Relationships

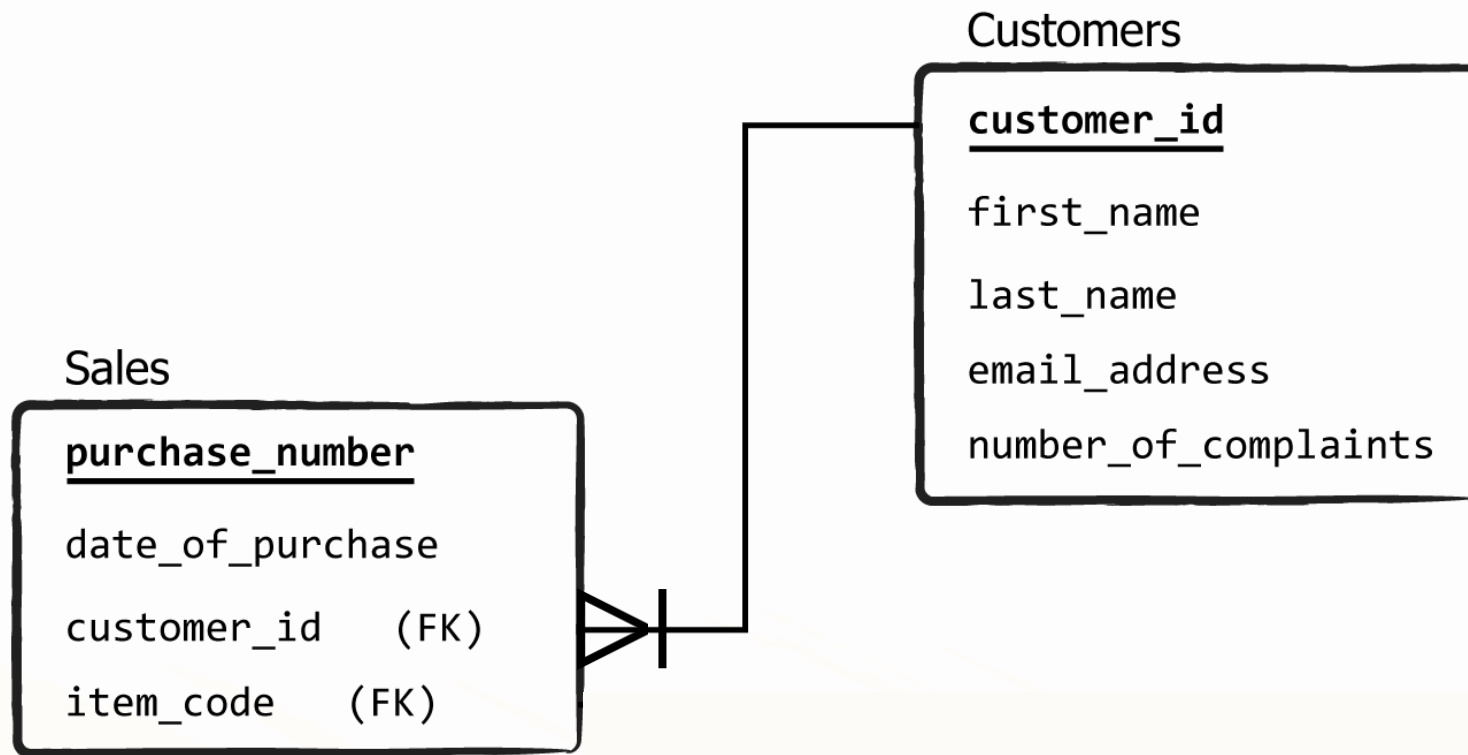


Relationships



Relationships

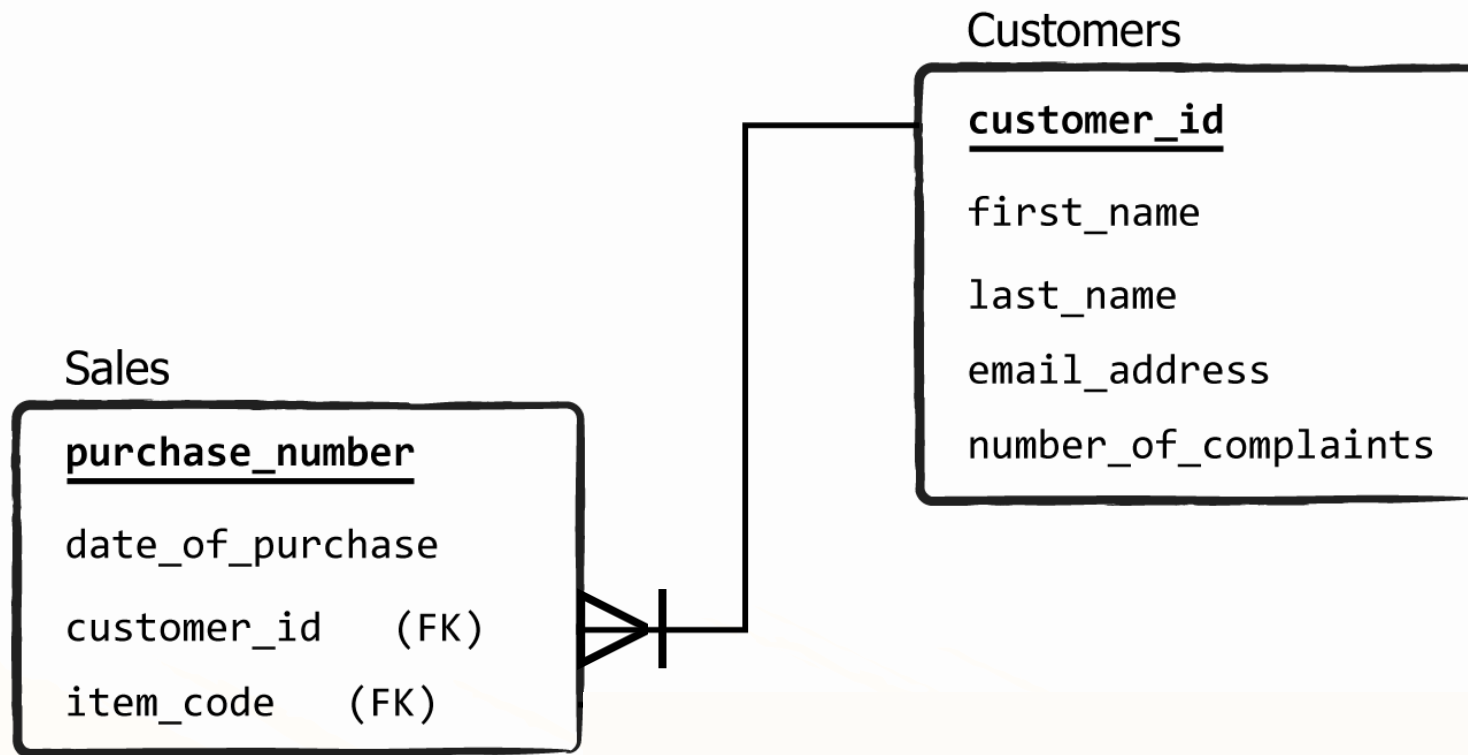
1 purchase



Relationships

1 purchase

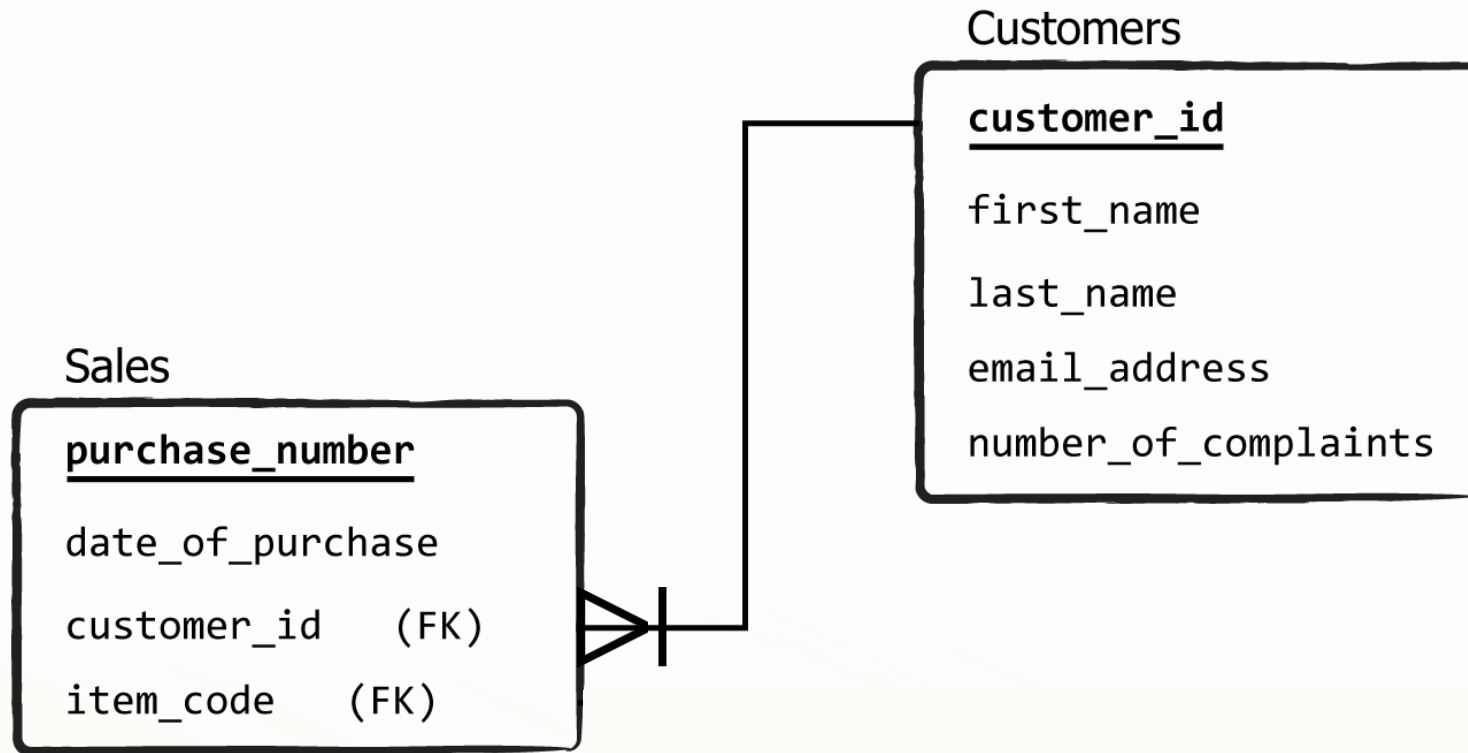
1 customer



Relationships

1 purchase

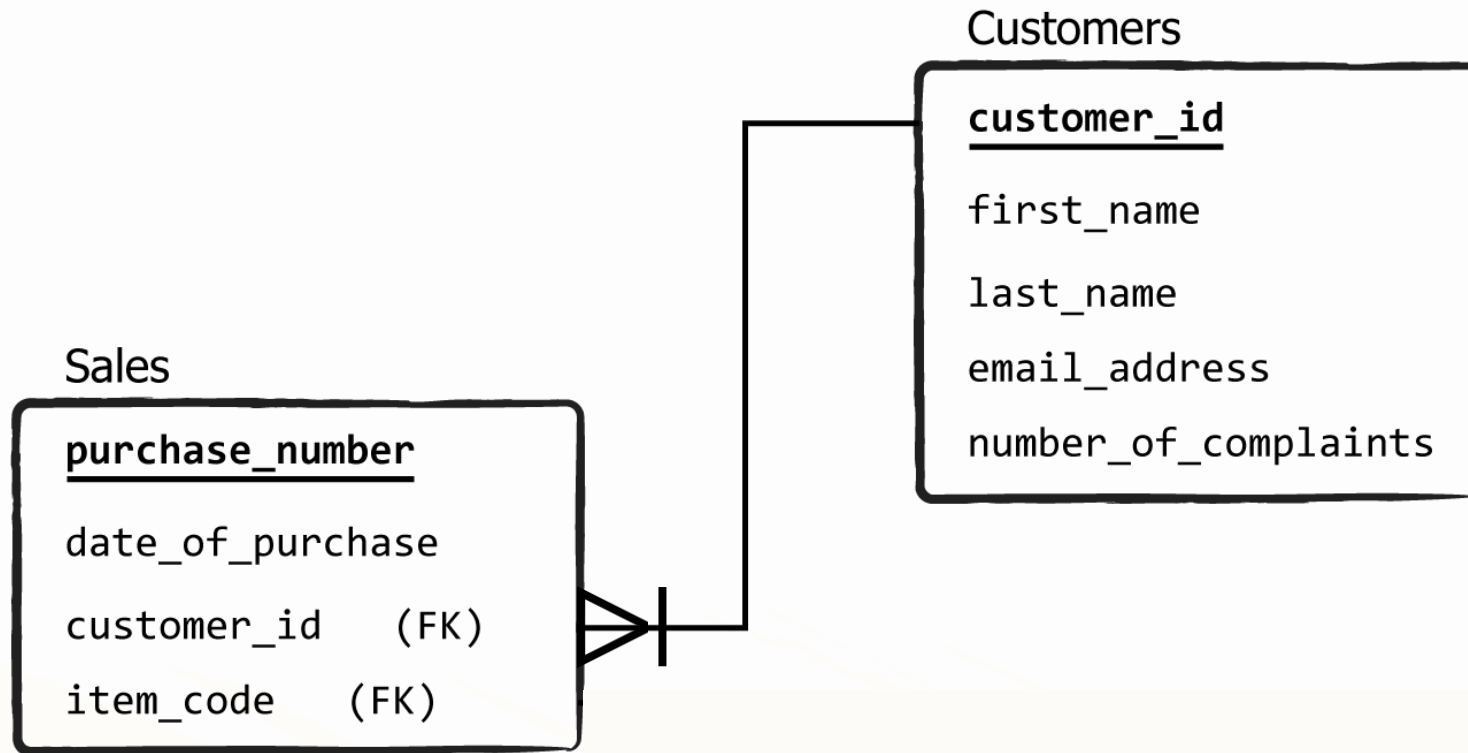
minimum = 1 customer



Relationships

1 purchase

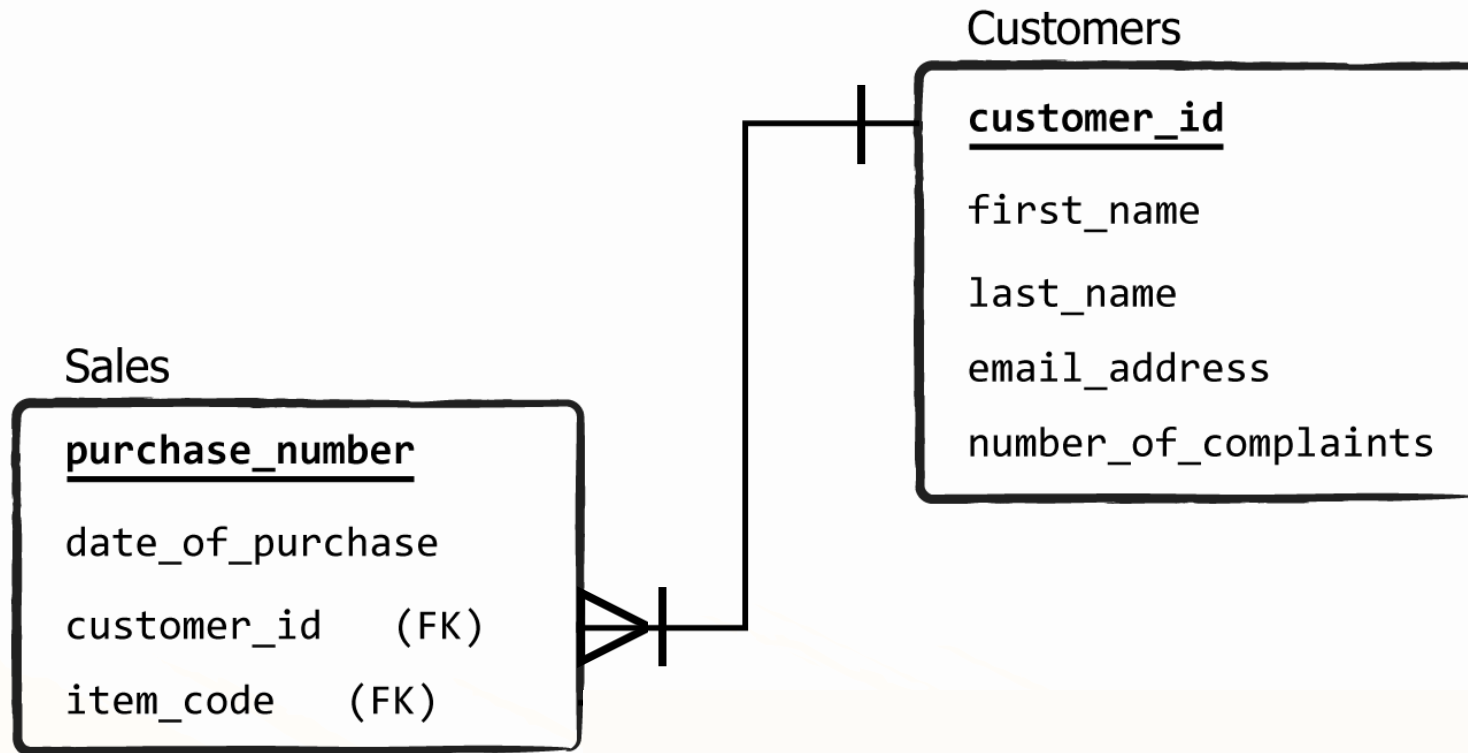
minimum = 1 customer = maximum



Relationships

1 purchase

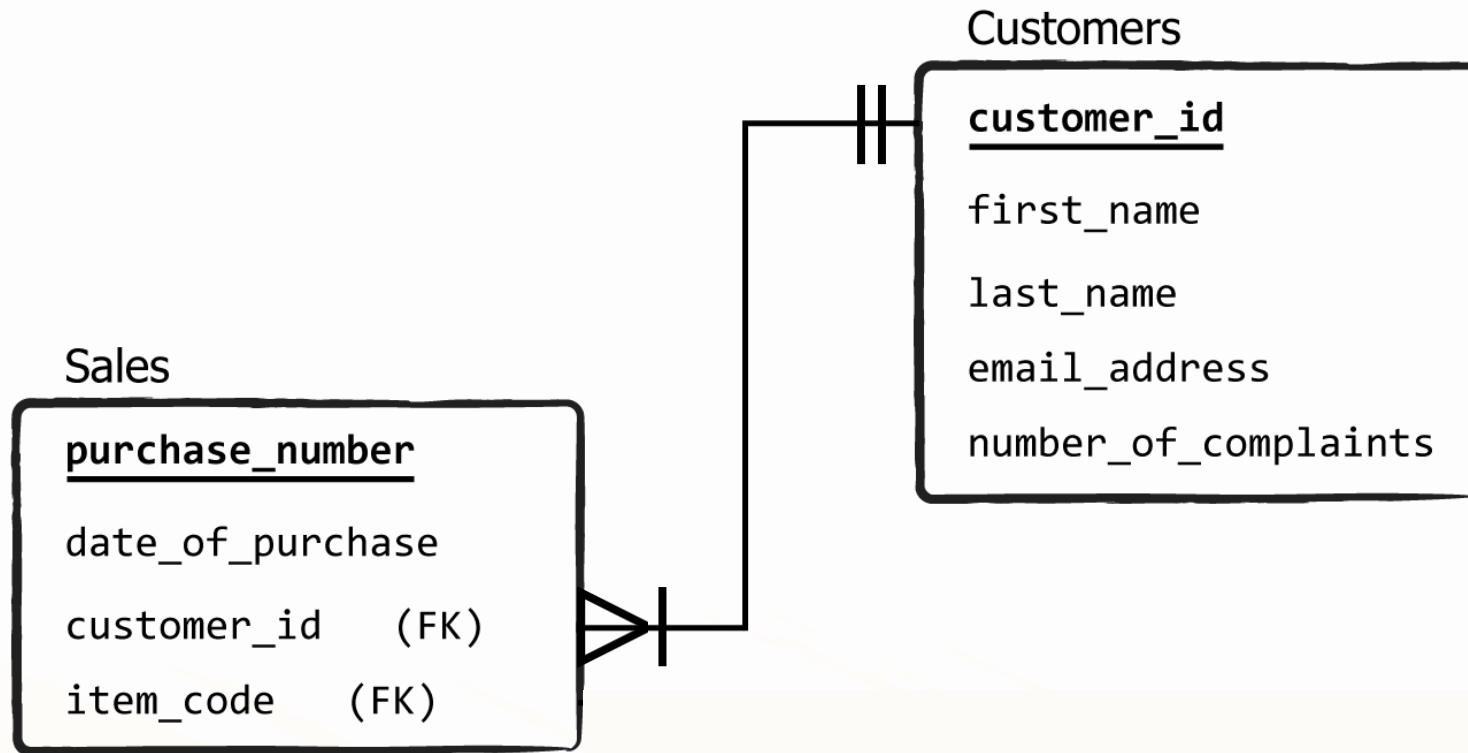
minimum = 1 customer = maximum



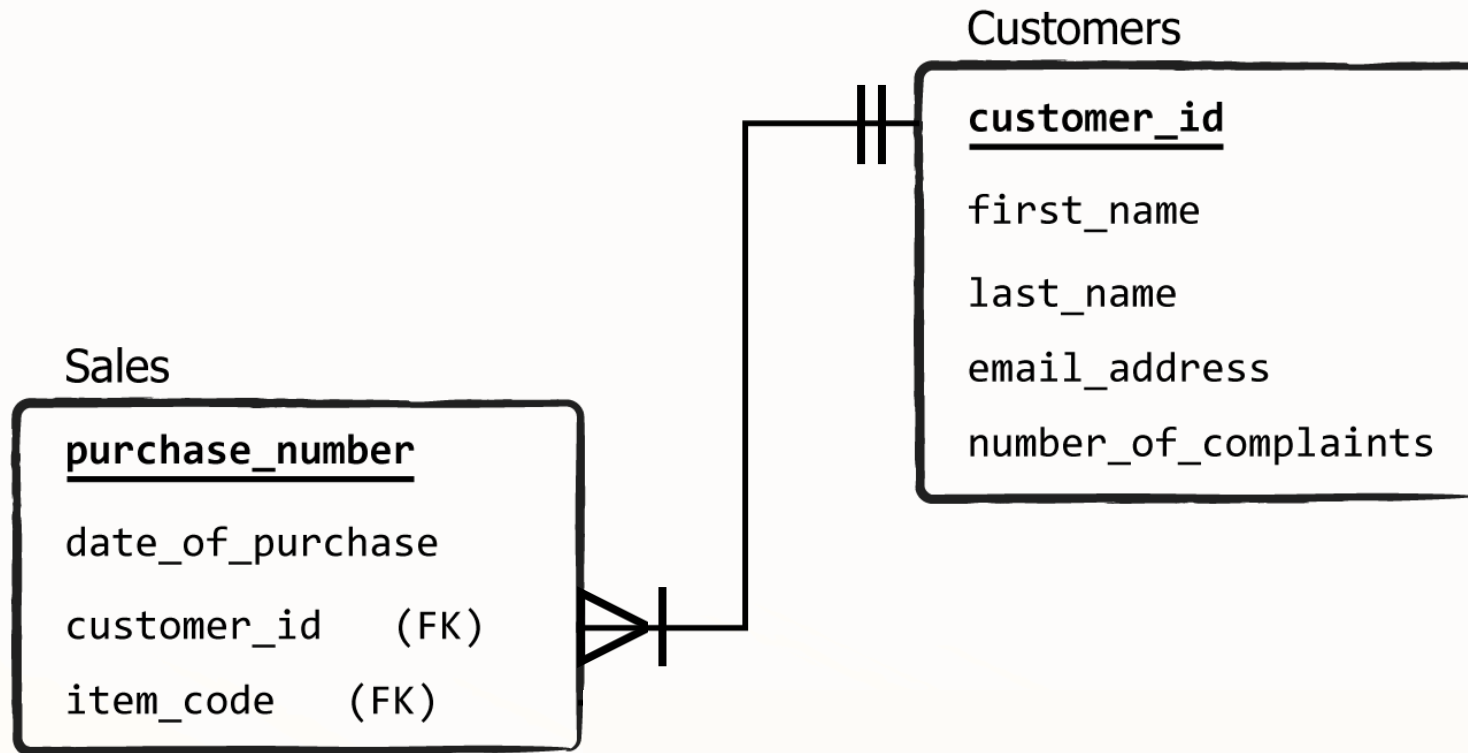
Relationships

1 purchase

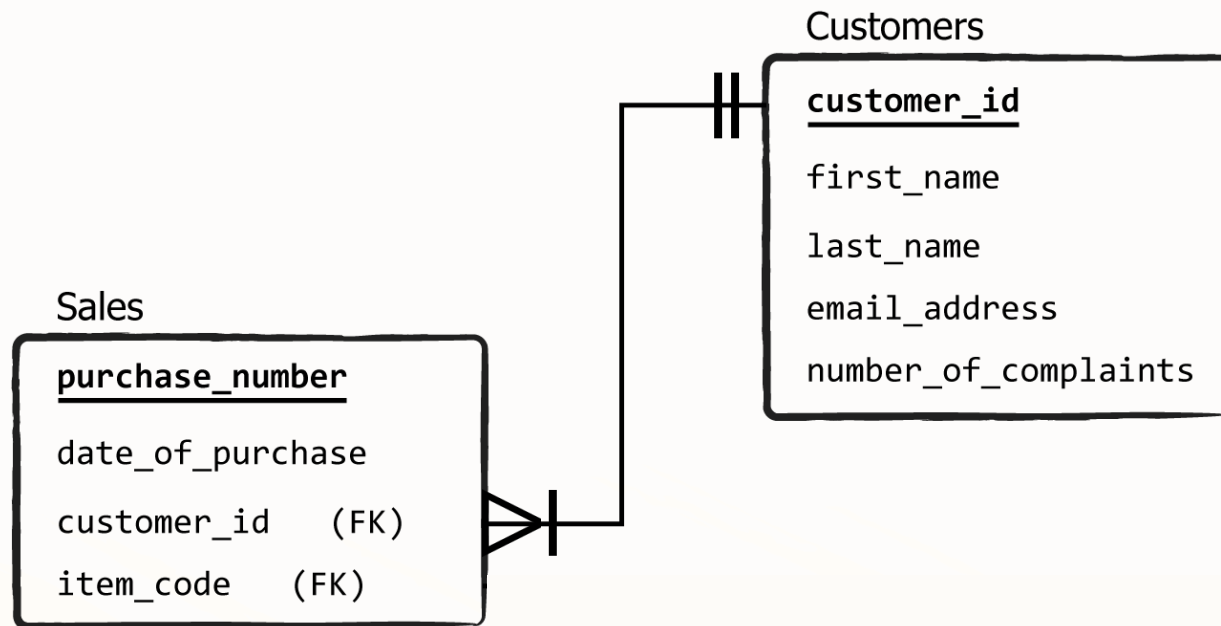
minimum = 1 customer = maximum



Relationships

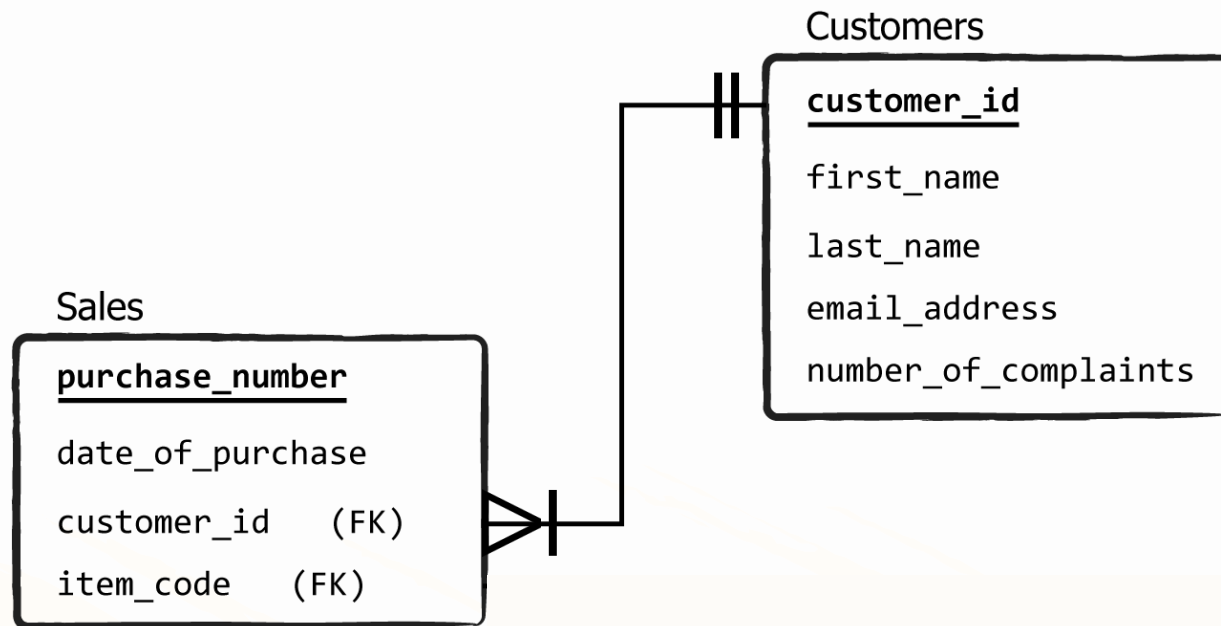


Relationships



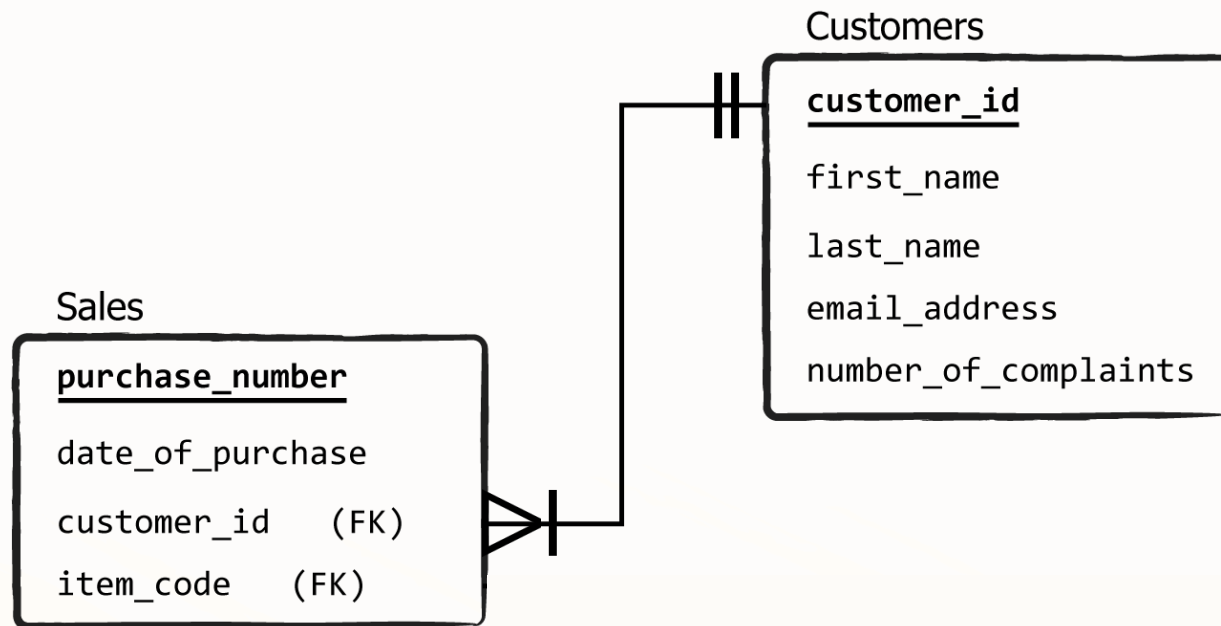
Relationships

Customers to Sales: *one-to-many*



Relationships

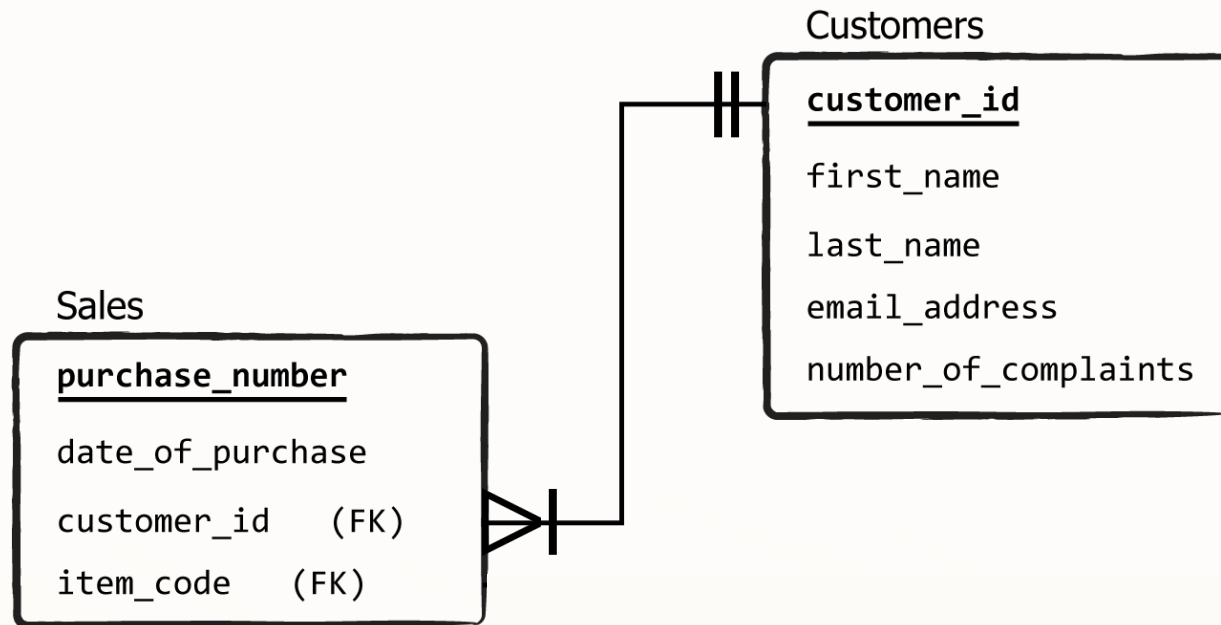
Customers to Sales: *one-to-many*



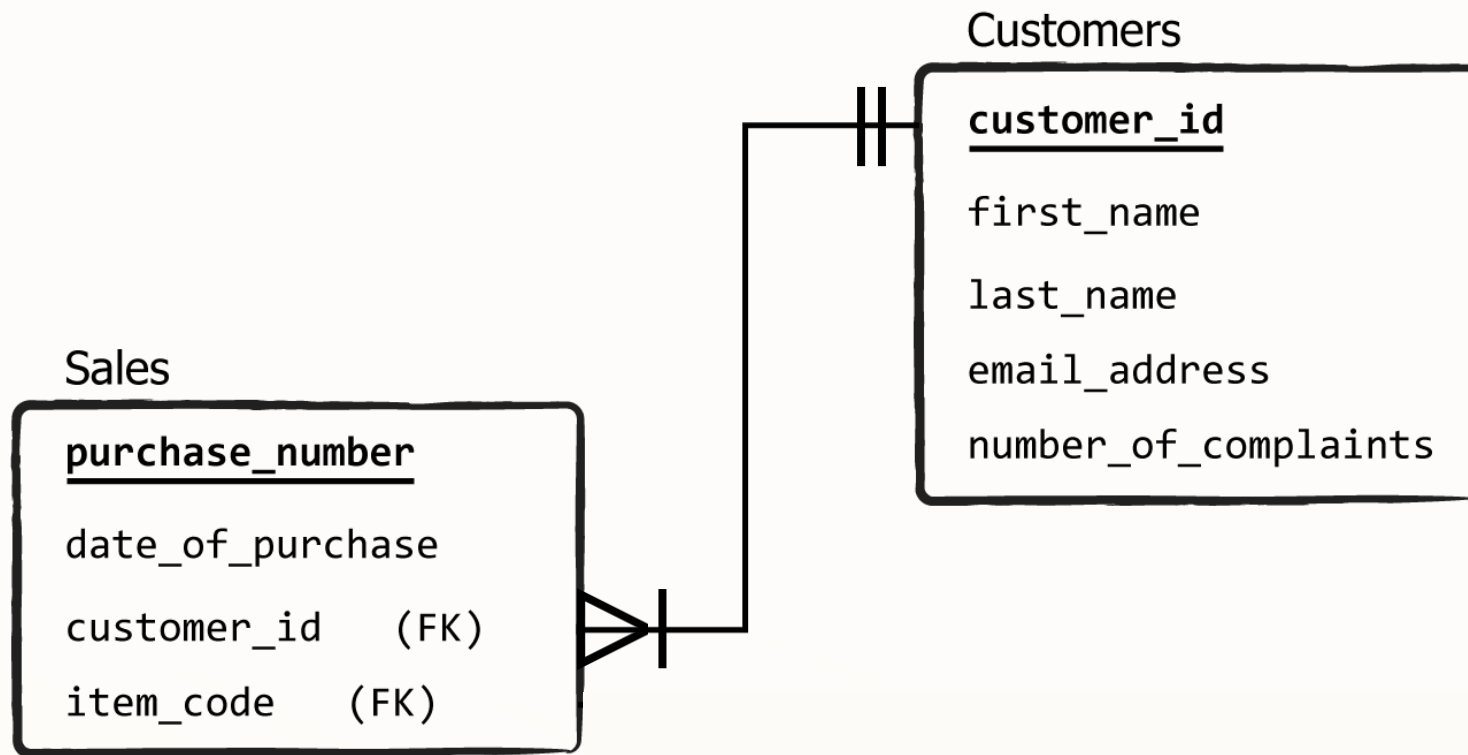
Relationships

Customers to Sales: *one-to-many*

Sales to Customers: *many-to-one*

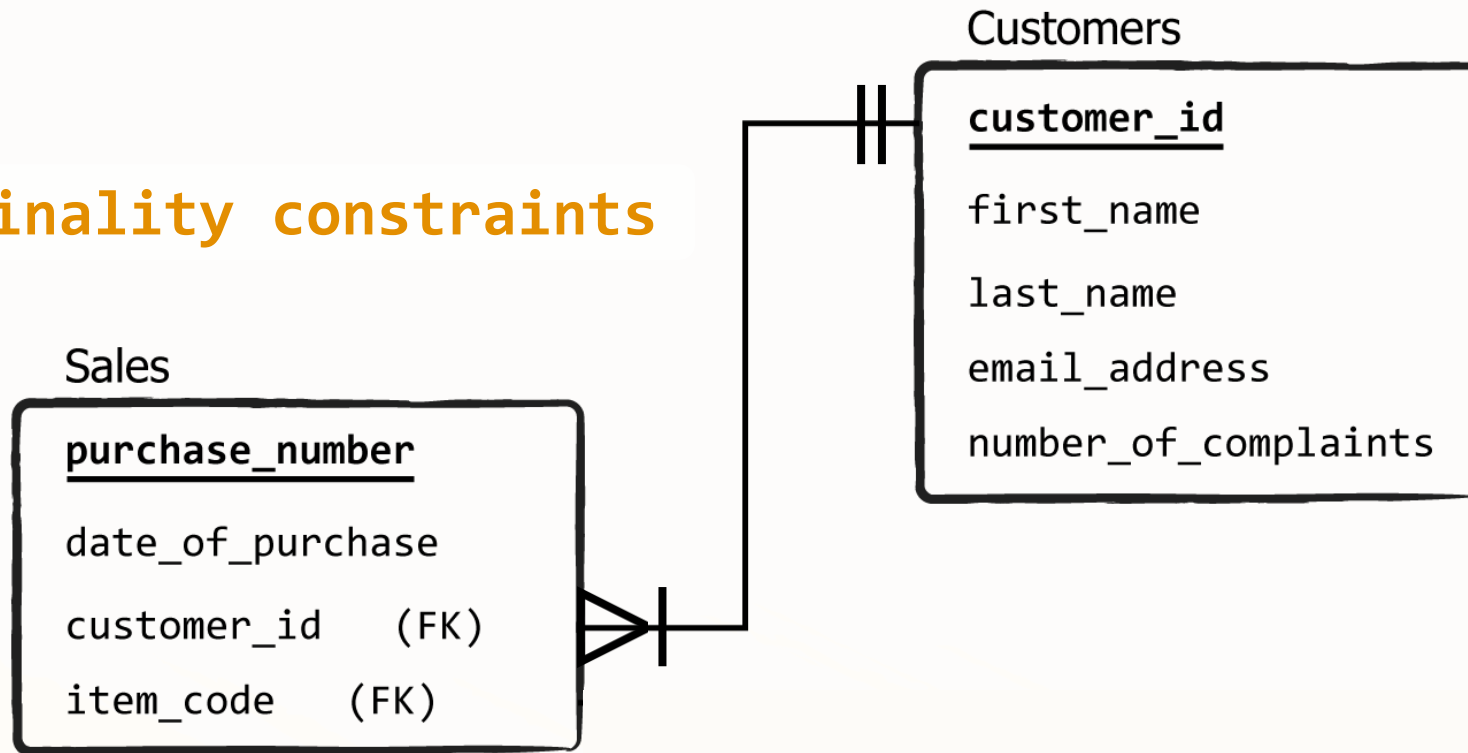


Relationships



Relationships

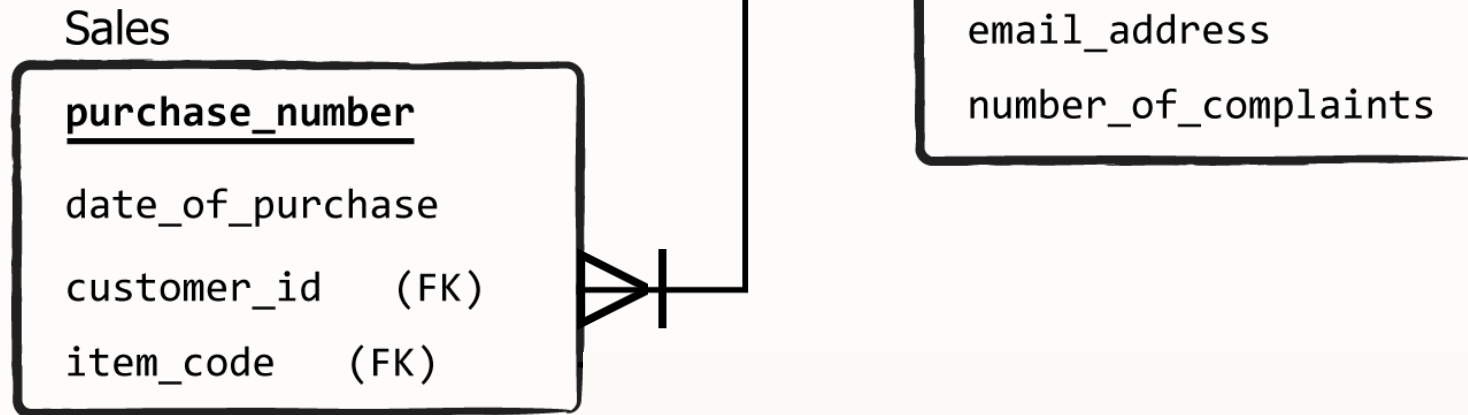
cardinality constraints



Relationships

| > M N ○

cardinality constraints



Relationships

● Relationships

relationships tell you how much of the data from a foreign key field can be seen in the primary key column of the table the data is related to and vice versa

Relationships

- Relationships

relationships tell you how much of the data from a foreign key field can be seen in the primary key column of the table the data is related to and vice versa

- types of relationships

Relationships

● Relationships

relationships tell you how much of the data from a foreign key field can be seen in the primary key column of the table the data is related to and vice versa

● types of relationships

- one-to-many (many-to-one)

Relationships

● Relationships

relationships tell you how much of the data from a foreign key field can be seen in the primary key column of the table the data is related to and vice versa

● types of relationships

- one-to-many (many-to-one)
- one-to-one

Relationships

● Relationships

relationships tell you how much of the data from a foreign key field can be seen in the primary key column of the table the data is related to and vice versa

● types of relationships

- one-to-many (many-to-one)
- one-to-one
- many-to-many

Relationships

- Relational schemas

Relationships

- Relational schemas

- represent the concept database administrators must implement

Relationships

● Relational schemas

- represent the concept database administrators must implement
- depict how a database is organized

Relationships

● Relational schemas

- represent the concept database administrators must implement
 - depict how a database is organized
- = blueprints, or a plan for a database

Relationships

● Relational schemas

- represent the concept database administrators must implement
 - depict how a database is organized
- = blueprints, or a plan for a database
- *will help you immensely while writing your queries!*