

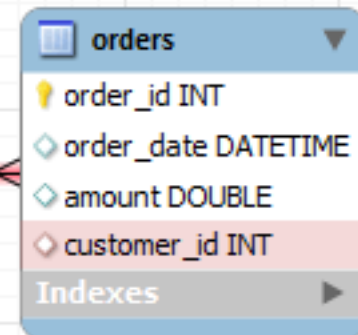
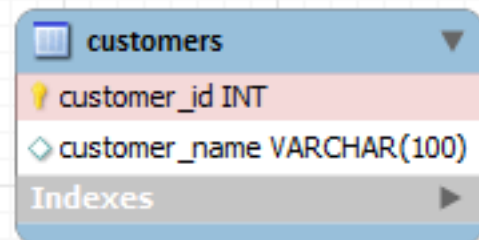
MySQL Schemas



DATA SCIENCE BOOTCAMP

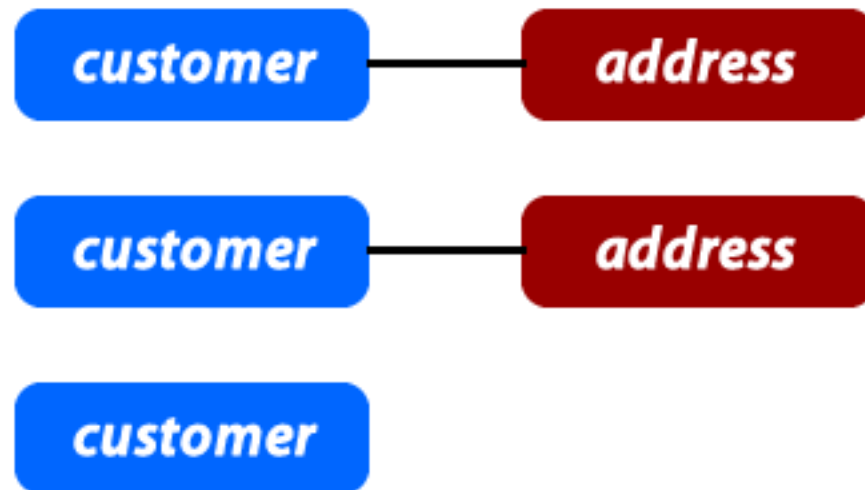
Schema

The structure of the database
(relationships between tables)



<u>CUSTOMERS</u>		
customer_id	customer_name	customer_address
101	John Doe	12 Main St., Houston TX 77001
102	Bruce Wayne	1007 Mountain Dr., Gotham NY 10286

<u>CUSTOMERS</u>		
customer_id	customer_name	address_id
101	John Doe	301
102	Bruce Wayne	302
<u>ADDRESSES</u>		
address_id	address	
301	12 Main St., Houston TX 77001	
302	1007 Mountain Dr., Gotham NY 10286	



One to One relationship

one customer  one address

One to One relationship

one customer \longleftrightarrow one address

Each customer can have only one address,
Each address can belong only to one customer

One to One relationship

one customer  one address

one movie  one title

Each customer can have only one address,
Each address can belong only to one customer

One to One relationship

One to Many relationship

Many to Many relationship

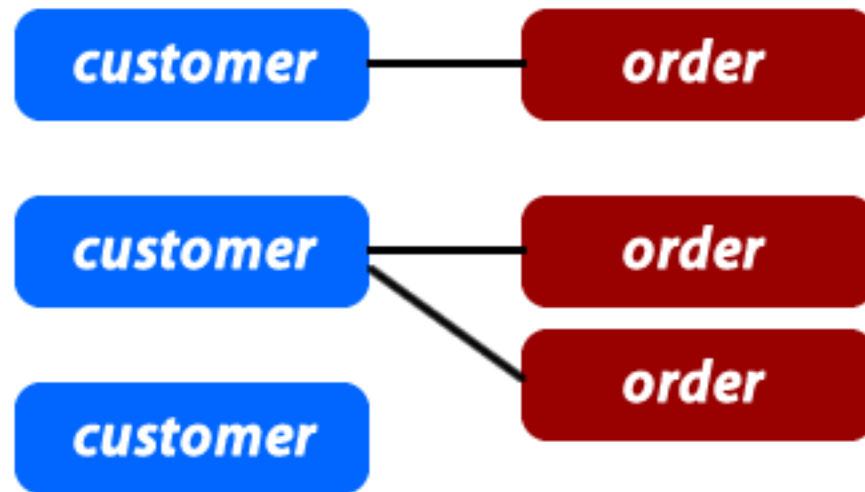
One to One relationship

One to Many relationship

Many to Many relationship

<u>CUSTOMERS</u>	
customer_id	customer_name
101	John Doe
102	Bruce Wayne

<u>ORDERS</u>			
order_id	customer_id	order_date	amount
555	101	12/24/09	\$156.78
556	102	12/25/09	\$99.99
557	101	12/26/09	\$75.00



One to Many relationship

one customer  many orders

One to Many relationship

one customer  many orders

Each customer can have multiple orders,
one order can belong only to one customer

One to Many relationship

one customer  many orders

one MPAA rating  many movies

one release date  many movies

Each customer can have multiple orders,
one order can belong only to one customer

<u>CUSTOMERS</u>	
customer_id	customer_name
101	John Doe
102	Bruce Wayne

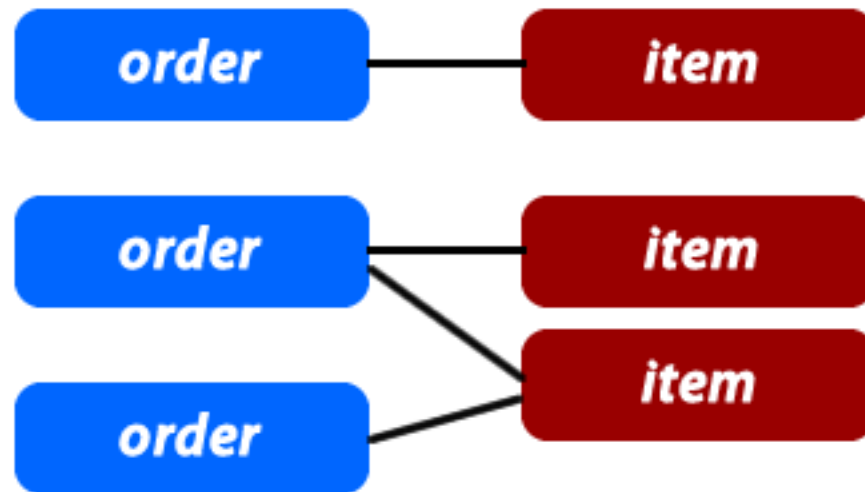
<u>ORDERS</u>			
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One to One relationship

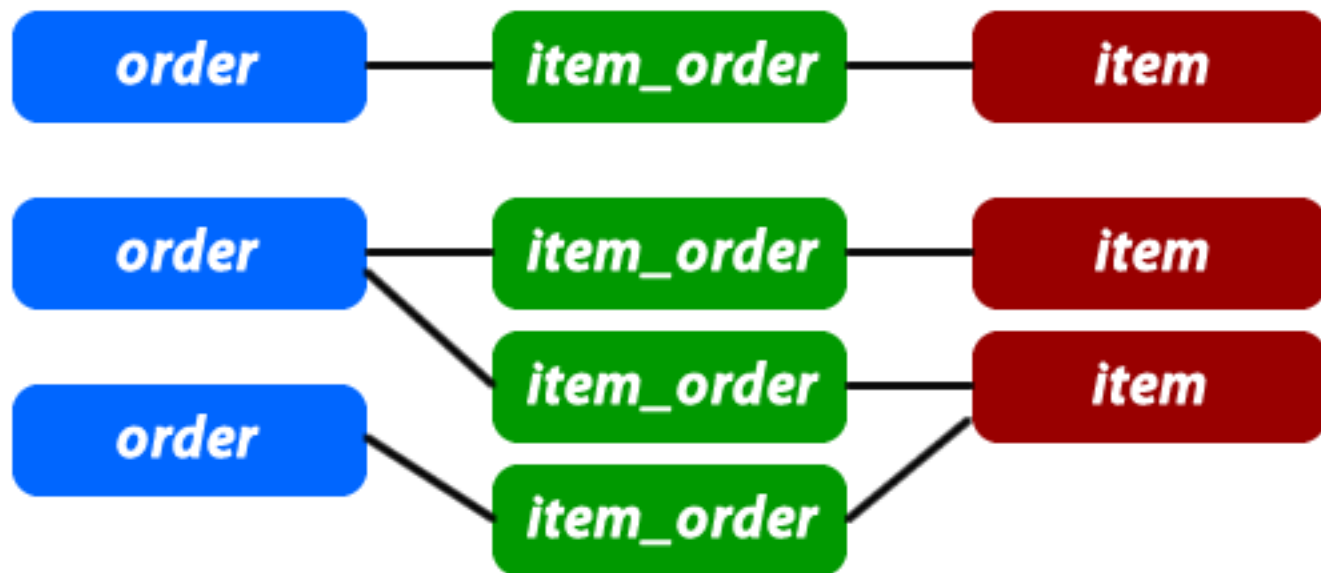
One to Many relationship

Many to Many relationship

<u>ORDERS</u>			
order_id	customer_id	order_date	amount
555	101	12/24/09	\$156.78
556	102	12/25/09	\$99.99
<u>ITEMS</u>			
item_id	item_name	item_description	
201	Tickle Me Elmo	It wants to be tickled	
202	District 9 DVD	Awesome sci-fi movie	
203	Batarang	It is very sharp	
<u>ITEMS_ORDERS</u>			
order_id	item_id		
555	201		
555	202		
556	202		
556	203		



<u>ORDERS</u>			
order_id	customer_id	order_date	amount
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<u>ITEMS_ORDERS</u>			
order_id	item_id		
555	201		
555	202		
556	202		
556	203		



Many to Many relationship

many orders  many items

Many to Many relationship

many orders  many items

each order can have multiple items,
each item can be in multiple orders

Many to Many relationship

many orders  many items

many movies  many actors

many subgenres  many movies

each order can have multiple items,
each item can be in multiple orders

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102	Bruce Wayne

<u>ORDERS</u>			
order_id	customer_id	order_date	amount
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```

1 CREATE TABLE customers (
2     customer_id INT AUTO_INCREMENT PRIMARY KEY,
3     customer_name VARCHAR(100)
4 );

```

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```

1 CREATE TABLE customers (
2     customer_id INT AUTO_INCREMENT PRIMARY KEY,
3     customer_name VARCHAR(100)
4 );

```

```

1 CREATE TABLE orders (
2     order_id INT AUTO_INCREMENT PRIMARY KEY,
3     customer_id INT,
4     amount DOUBLE,
5     FOREIGN KEY (customer_id) REFERENCES customers(customer_id)
6 );

```