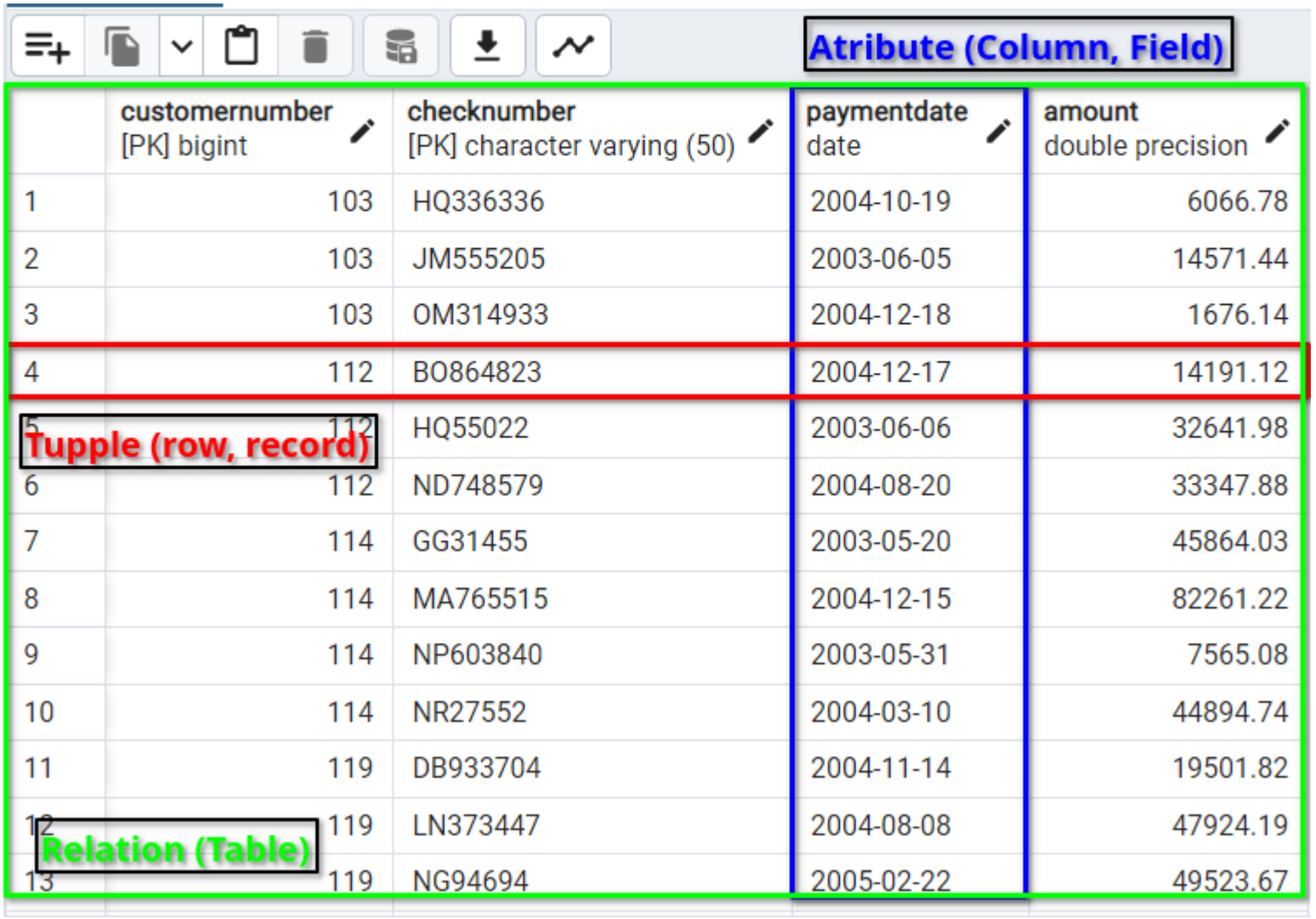
Introduction to relational databases (Resume)

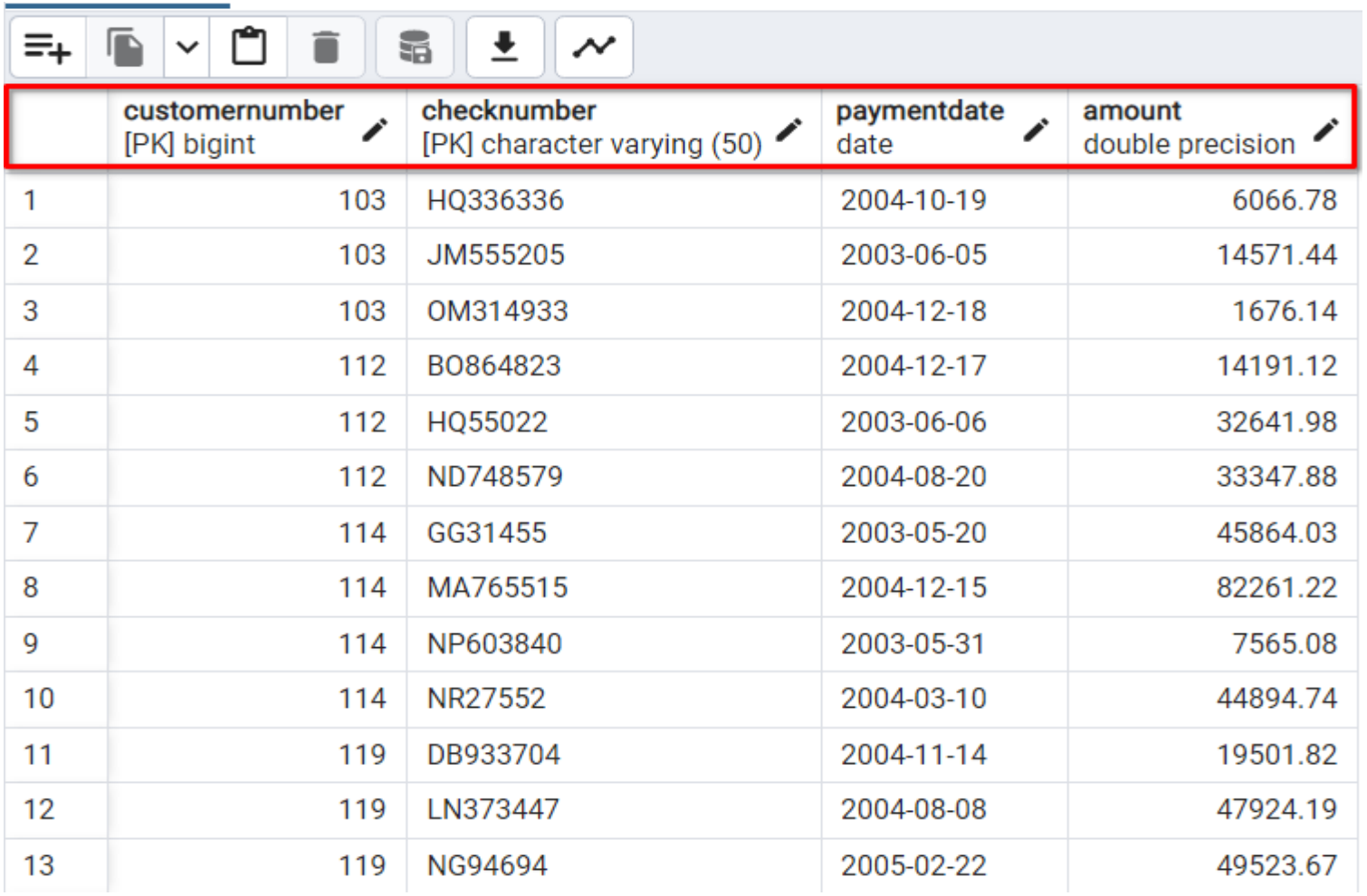
Alexandre Neto

Tables, Columns, Record



	customernumber [PK] bigint	checknumber [PK] character varying (50)	paymentdate date	amount double precision
1	103	HQ336336	2004-10-19	6066.78
2	103	JM555205	2003-06-05	14571.44
3	103	OM314933	2004-12-18	1676.14
4	112	BO864823	2004-12-17	14191.12
5	112	HQ55022	2003-06-06	32641.98
6	112	ND748579	2004-08-20	33347.88
7	114	GG31455	2003-05-20	45864.03
8	114	MA765515	2004-12-15	82261.22
9	114	NP603840	2003-05-31	7565.08
10	114	NR27552	2004-03-10	44894.74
11	119	DB933704	2004-11-14	19501.82
12	119	LN373447	2004-08-08	47924.19
13	119	NG94694	2005-02-22	49523.67

Data types and Domains



	customernumber [PK] bigint	checknumber [PK] character varying (50)	paymentdate date	amount double precision
1	103	HQ336336	2004-10-19	6066.78
2	103	JM555205	2003-06-05	14571.44
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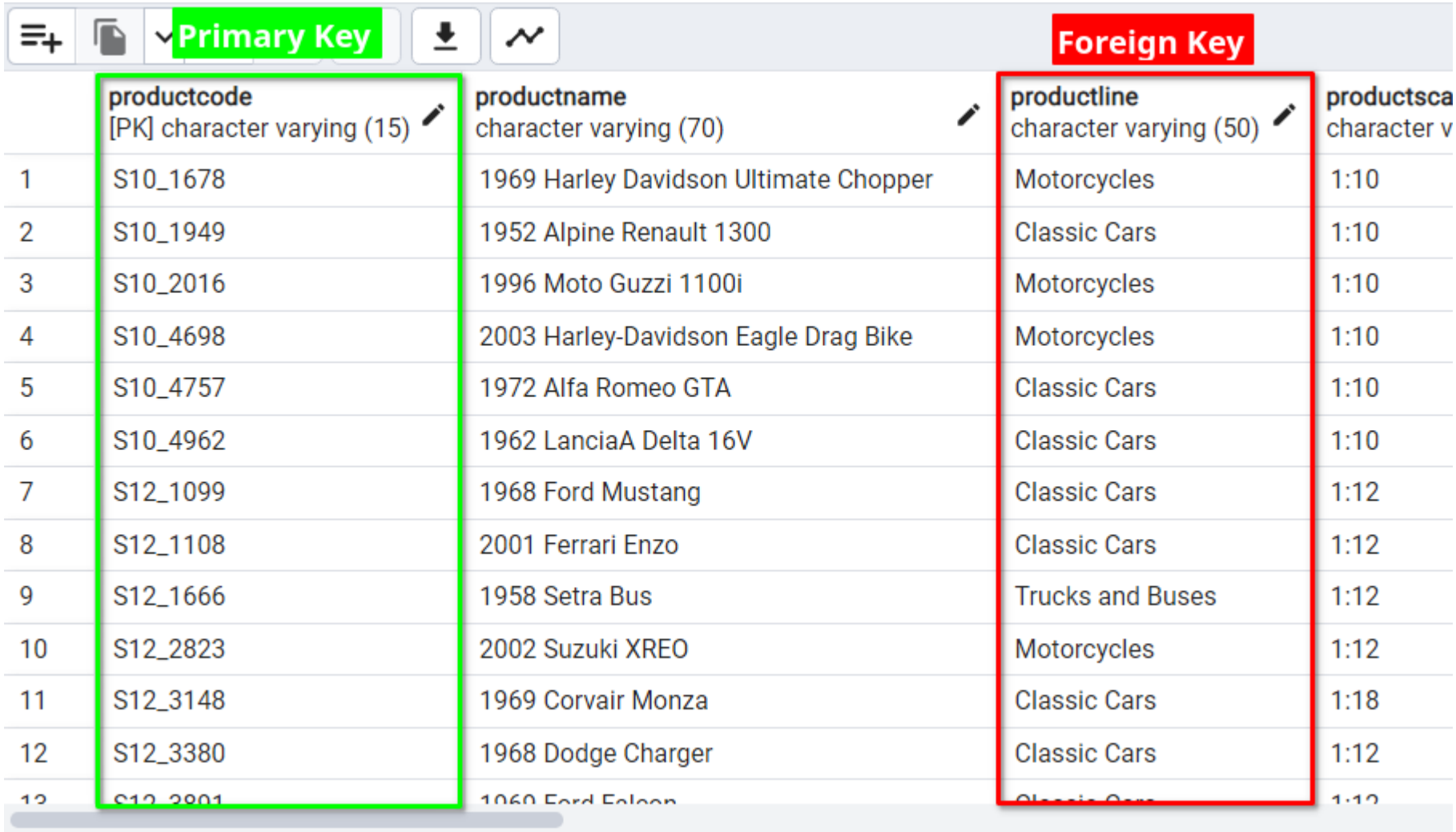
10	114	NR27552	2004-03-10	44894.74
11	119	DB933704	2004-11-14	19501.82
12	119	LN373447	2004-08-08	47924.19
13	119	NG94694	2005-02-22	49523.67

Primary Key, Foreign Key



	productcode [PK] character varying (15)	productname character varying (70)	productline character varying (50)	productsca character v
1	S10_1678	1969 Harley Davidson Ultimate Chopper	Motorcycles	1:10
2	S10_1949	1952 Alpine Renault 1300	Classic Cars	1:10
3	S10_2016	1996 Moto Guzzi 1100i	Motorcycles	1:10
4	S10_4698	2003 Harley-Davidson Eagle Drag Bike	Motorcycles	1:10
5	S10_4757	1972 Alfa Romeo GTA	Classic Cars	1:10
6	S10_4962	1962 LanciaA Delta 16V	Classic Cars	1:10
7	S12_1099	1968 Ford Mustang	Classic Cars	1:12
8	S12_1108	2001 Ferrari Enzo	Classic Cars	1:12
9	S12_1666	1958 Setra Bus	Trucks and Buses	1:12
10	S12_2823	2002 Suzuki XREO	Motorcycles	1:12
11	S12_3148	1969 Corvair Monza	Classic Cars	1:18
12	S12_3380	1968 Dodge Charger	Classic Cars	1:12
13	S12_3891	1969 Ford Falcon	Classic Cars	1:12

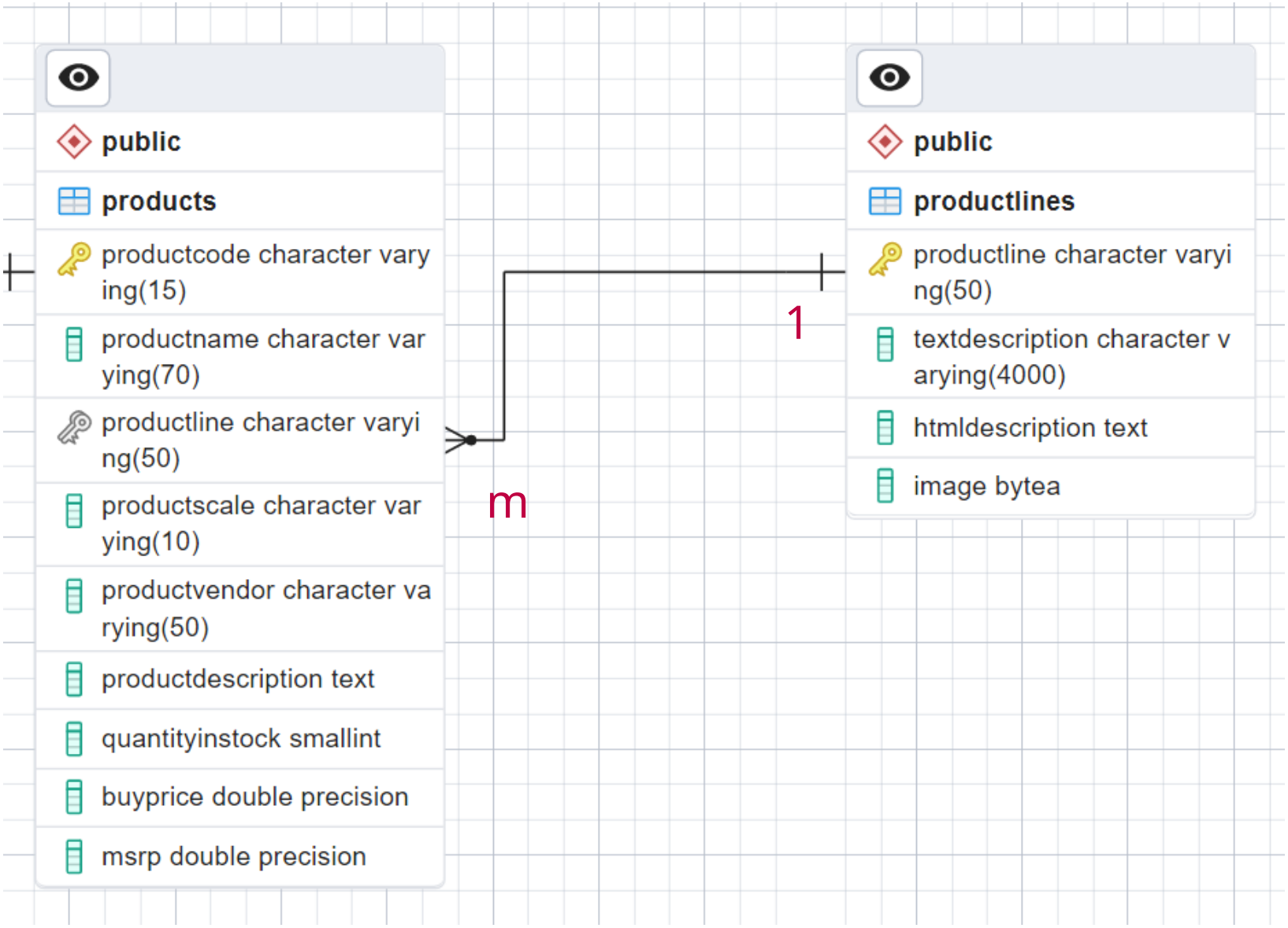
Multiple columns PK

	customernumber [PK] bigint	checknumber [PK] character varying (50)	paymentdate date	amount double precision
1	103	HQ336336	2004-10-19	6066.78
2	103	JM555205	2003-06-05	14571.44
3	103	OM314933	2004-12-18	1676.14
4	112	BO864823	2004-12-17	14191.12
5	112	HQ55022	2003-06-06	32641.98
6	112	ND748579	2004-08-20	33347.88
7	114	GG31455	2003-05-20	45864.03
8	114	MA765515	2004-12-15	82261.22
9	114	NP603840	2003-05-31	7565.08
10	114	NR27552	2004-03-10	44894.74
11	119	DB933704	2004-11-14	19501.82
12	119	LN373447	2004-08-08	47924.19
13	119	NG94594	2005-02-22	49523.67
14	121	DB880831	2003-02-16	50218.95

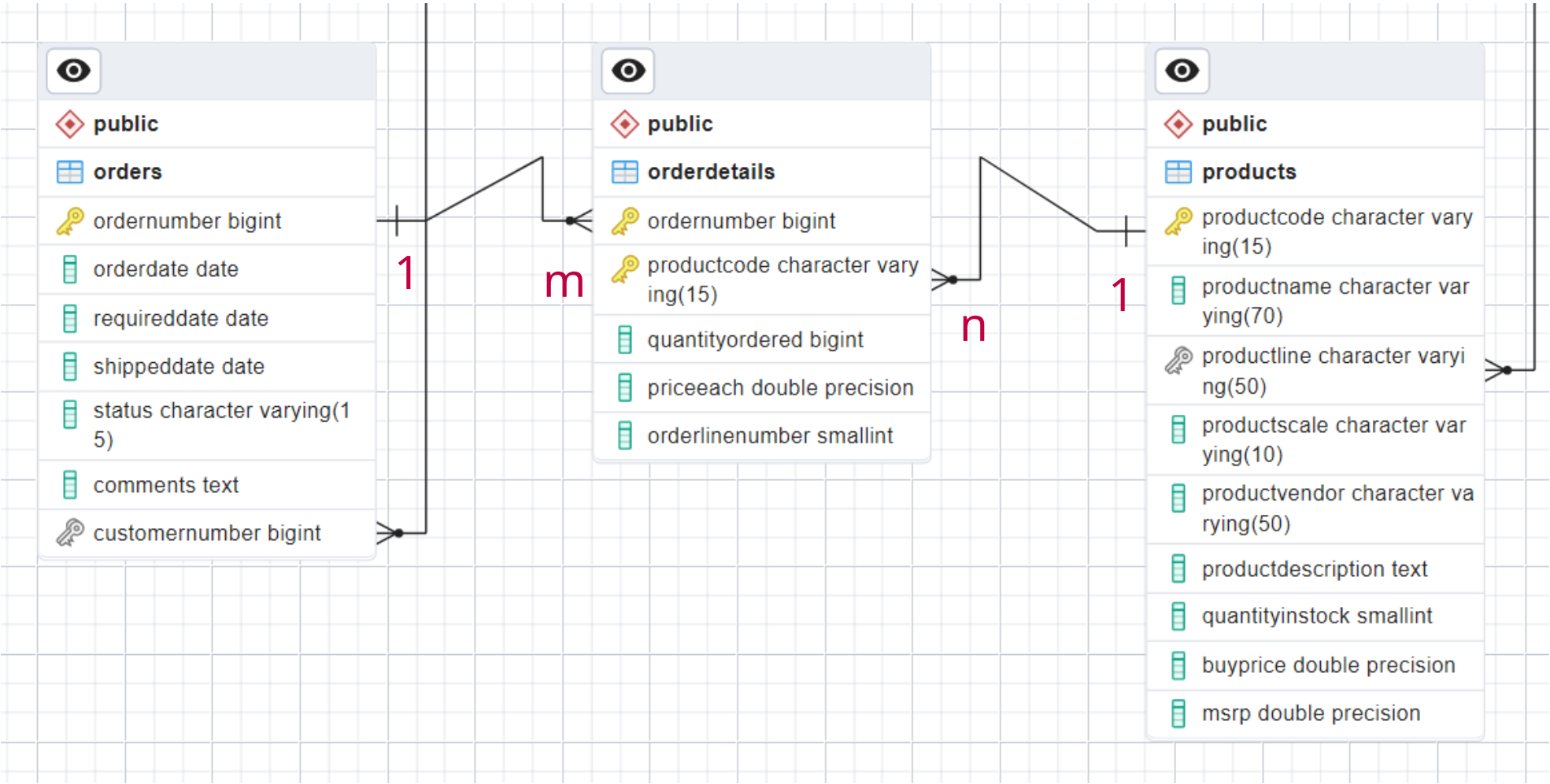
Foreign Key

Primary Key

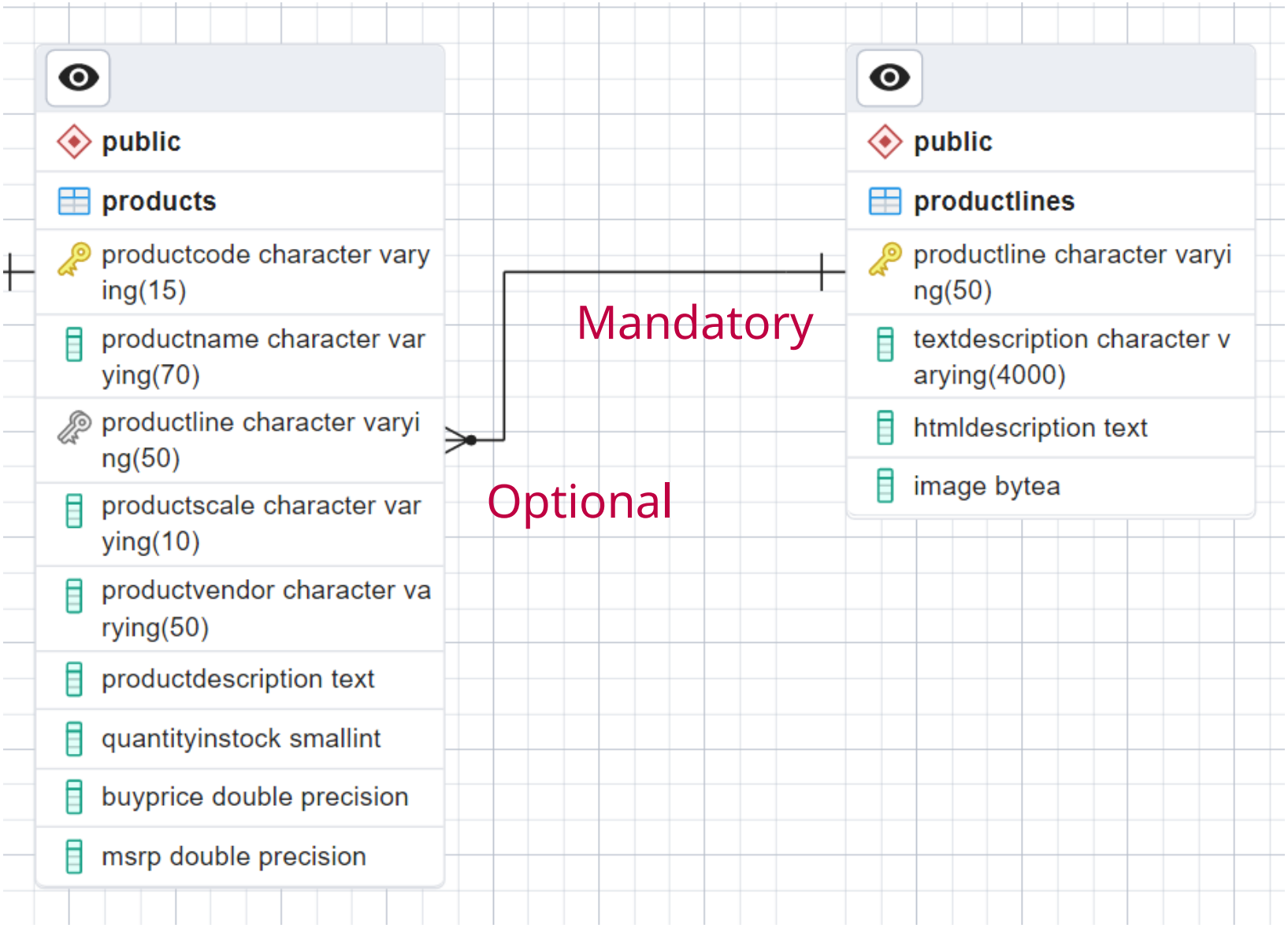
Relationship multiplicity (one to many)



Relationship multiplicity (many to many)

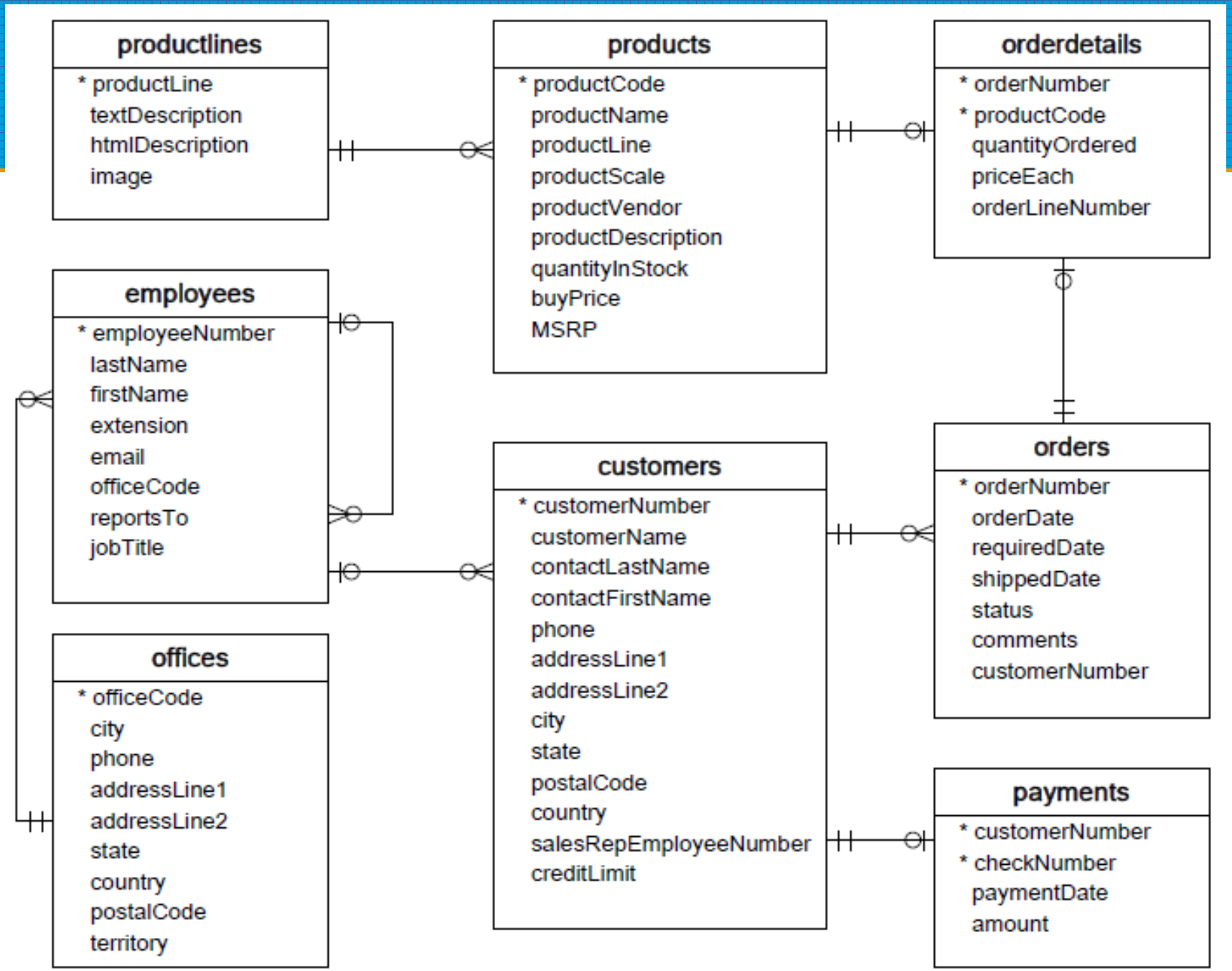


Relationship Membership



Constraints

- **not null** - a column cannot have null values
- **unique** - a column cannot have duplicates
- **primary key** - a column is the primary key
- **foreign key** - a column is a foreign key
- **check** - check if a condition is true, e.g. income ≥ 0
- **default** - defines the default value


productlines
* productLine
textDescription
htmlDescription
image
products
* productCode
productName
productLine
productScale
productVendor
productDescription
quantityInStock
buyPrice
MSRP
orderdetails
* orderNumber
* productCode
quantityOrdered
priceEach
orderLineNumber
employees
* employeeNumber
lastName
firstName
extension
email
officeCode
reportsTo
jobTitle
customers
* customerNumber
customerName
contactLastName
contactFirstName
phone
addressLine1
addressLine2
city
state
postalCode
country
salesRepEmployeeNumber
creditLimit
orders
* orderNumber
orderDate
requiredDate
shippedDate
status
comments
customerNumber
offices
* officeCode
city
phone
addressLine1
addressLine2
state
country
postalCode
territory
payments
* customerNumber
* checkNumber
paymentDate
amount