

Mackenzie O'Brien

Lab 2: 1/27/17

pgAdmin 4 File Object Tools Help

Browser

- Servers (1)
 - PostgreSQL 9.6
 - Databases (2)
 - CAP
 - Casts
 - Catalogs
 - Event Triggers
 - Extensions
 - Foreign Data Wrappers
 - Languages
 - Schemas
 - postgres
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Dashboard Properties SQL Statistics Dependencies Dependents Query-1

AP on postgres@PostgreSQL 9.6

```
113 INSERT INTO Orders( ordNumber, month, cid, aid, pid, qty, totalUSD )
114 VALUES(1011, 'Jan', 'c001', 'a01', 'p01', 1000, 450.00),
115 (1012, 'Jan', 'c002', 'a03', 'p03', 1000, 880.00),
116 (1015, 'Jan', 'c003', 'a03', 'p05', 1200, 1104.00),
117 (1016, 'Jan', 'c006', 'a01', 'p01', 1000, 500.00),
118 (1017, 'Feb', 'c001', 'a06', 'p03', 600, 540.00),
119 (1018, 'Feb', 'c001', 'a03', 'p04', 600, 540.00),
120 (1019, 'Feb', 'c001', 'a02', 'p02', 400, 180.00),
121 (1020, 'Feb', 'c006', 'a03', 'p07', 600, 600.00),
122 (1021, 'Feb', 'c004', 'a06', 'p01', 1000, 460.00),
123 (1022, 'Mar', 'c001', 'a05', 'p06', 400, 720.00),
124 (1023, 'Mar', 'c001', 'a04', 'p05', 500, 450.00),
125 (1024, 'Mar', 'c006', 'a06', 'p01', 800, 400.00),
126 (1025, 'Apr', 'c001', 'a05', 'p07', 800, 720.00),
127 (1026, 'May', 'c002', 'a05', 'p03', 800, 744.00);
128
129 select * from Customers;
130 select * from Products;
131
```

Data Output Explain Messages History

	pid character	name text	city text	quantity integer	priceusd numeric ...
<input type="checkbox"/>	p01	comb	Dallas	111400	0.5
<input type="checkbox"/>	p02	brush	Newark	203000	0.5
<input type="checkbox"/>	p03	razor	Duluth	150600	1
<input type="checkbox"/>	p04	pen	Duluth	125300	1
<input type="checkbox"/>	p05	pencil	Dallas	221400	1
<input type="checkbox"/>	p06	trapper	Dallas	123100	2
<input type="checkbox"/>	p07	case	Newark	100500	1
<input type="checkbox"/>	p08	eraser	Newark	200600	1.25

Total query runtime: 141 msec.
8 rows retrieved.

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128
129 select * from Customers;
130 select * from Products;
131 select * from Agents;
```

Data Output Explain Messages History

	aid character	name text	city text	commissi... numeric ...
<input type="checkbox"/>	a01	Smith	New York	6.5
<input type="checkbox"/>	a02	Jones	Newark	6
<input type="checkbox"/>	a03	Perry	Tokyo	7
<input type="checkbox"/>	a04	Grey	New York	6
<input type="checkbox"/>	a05	Otasi	Duluth	5
<input type="checkbox"/>	a06	Smith	Dallas	5
<input type="checkbox"/>	a08	Bond	London	7.07

Total query runtime: 109 msec.
7 rows retrieved.

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128
129 select * from Customers;
130 select * from Products;
131 select * from Agents;
132 select * from Orders;
133
```

Data Output Explain Messages History

	ordnumber integer	month character	cid character	aid character	pid character	qty integer	totalusd numeric ...
<input type="checkbox"/>	1011	Jan	c001	a01	p01	1000	450
<input type="checkbox"/>	1012	Jan	c002	a03	p03	1000	880
<input type="checkbox"/>	1015	Jan	c003	a03	p05	1200	1104
<input type="checkbox"/>	1016	Jan	c006	a01	p01	1000	500
<input type="checkbox"/>	1017	Feb	c001	a06	p03	600	540
<input type="checkbox"/>	1018	Feb	c001	a03	p04	600	540
<input type="checkbox"/>	1019	Feb	c001	a02	p02	400	180
<input type="checkbox"/>	1020	Feb	c006	a03	p07	600	600
<input type="checkbox"/>	1021	Feb	c004	a06	p01	1000	460
<input type="checkbox"/>	1022	Mar	c001	a05	p06	400	720
<input type="checkbox"/>	1023	Mar	c001	a04	p05	500	450
<input type="checkbox"/>	1024	Mar	c006	a06	p01	800	400
<input type="checkbox"/>	1025	Apr	c001	a05	p07	800	720
<input type="checkbox"/>	1026	May	c002	a05	p03	800	744

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127 (1026, 'May', 'c002', 'a05', 'p03', 800, 744.00);
128
129 select * from Customers;
130
```

Data Output Explain Messages History

	cid character	name text	city text	discount numeric ...
<input type="checkbox"/>	c001	Tiptop	Duluth	10
<input type="checkbox"/>	c002	Tyrell	Dallas	12
<input type="checkbox"/>	c003	Allied	Dallas	8
<input type="checkbox"/>	c004	ACME	Duluth	8.5
<input type="checkbox"/>	c005	Weyland	Risa	0
<input type="checkbox"/>	c006	ACME	Kyoto	0

2.

- A **primary key** is the chosen candidate key
- A **candidate key** is a minimal super key, which means it is a super key of a table that uses the smallest amount of columns
- A **super key** is a column in a table that ensures that every row will be unique

So, a super key exists in every table and there can be multiple super keys, called candidate keys, but only one candidate key is chosen to be the unique identifier of a table.

3.

String	A string is a concatenation of characters
Int	An integer is a number with no decimals
Boolean	A Boolean is a true/false value, often represented as a 1 or 0
Char	A character is a single letter or symbol
Float	A float is a number value that can have decimals

If I were to create a table for volleyball players, I might have columns for first name as a string, last name as a string, date started as a date type or separate integer fields for day, month, and year, date ended as the same data types as date started, year in school as either an integer or string, and position as a string. If including past players, another field could be “still playing”, which would be a Boolean true or false and could not be null.

The only things that could be null are date ended, year in school.

Players						
First Name	Last Name	Date Started	Date Ended	Year in School	Position	Still Playing
String	String	Date	Date	Int	String	Boolean

4.

- The **first normal form** rule states that at an intersection of a row and a column, there can be nothing with multiple values. So, like the example we used in class, if a superhero has multiple powers, there cannot be two powers in the same cell of a table; they must be separated into either a new table of just powers or have separate columns for power 1, power 2, etc.
- The **access rows by content only** rule states that because content can move within the table, the data must be accessed by what it is, not where it is. At one point, the data might be in (1,5), but the next time the table updates, it may be in (1,6) and then the attempt to access it would not work.
- The **all rows must be unique** rule states that, for each table, all rows must be unique. If there are two rows with the same values, neither can be called by themselves and thus cannot be modified or accessed correctly.