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Database Systems

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Lab 2

	ordernum [PK] integer	dateordered date	custid integer	agentid integer	prodid character (3)	quantityordered integer	totalusd numeric (12,2)
1	1011	2020-01-23	1	2	p01	1100	58568.40
2	1012	2020-01-23	4	3	p03	1200	74871.83
3	1015	2020-01-23	5	3	p05	1000	15696.45
4	1016	2020-01-23	8	3	p01	1000	60750.00
5	1017	2020-02-14	1	3	p03	500	25643.88
6	1018	2020-02-14	1	3	p04	600	22244.16
7	1019	2020-02-14	1	2	p02	400	1735.36
8	1020	2020-02-14	4	5	p07	600	575.76
9	1021	2020-02-14	4	5	p01	1000	64773.00

```
1  select *
2  from People;
```

Data Output | Explain | Messages | Notifications

	pid [PK] integer	prefix text	firstname text	lastname text	suffix text	homecity text	dob date
1	1	Dr.	Neil	Peart	Ph.D.	Toronto	1952-09...
2	2	Ms.	Regina	Schock	[null]	Toronto	1957-08...
3	3	Mr.	Bruce	Crump	Jr.	Jacksonville	1957-07...
4	4	Mr.	Todd	Sucherman	[null]	Chicago	1969-05...
5	5	Mr.	Bernard	Purdie	[null]	Teaneck	1939-06...
6	6	Ms.	Demetra	Plakas	Esq.	Santa Monica	1960-11...
7	7	Ms.	Terri Lyne	Carrington	[null]	Boston	1965-08...
8	8	Dr.	Bill	Bruford	Ph.D.	Kent	1949-05...
9	9	Mr.	Alan	White	III	Pelton	1949-06...

Mail

9	1021	2020-02-14	4	5	p01	1000	64773.00
10	1022	2020-03-15	1	3	p06	450	709.92
11	1023	2020-03-15	1	2	p05	500	6550.98
12	1024	2020-03-15	5	2	p01	880	56133.00
13	1025	2020-04-01	8	3	p07	888	799.20
14	1026	2020-05-01	8	5	p03	808	47282.54

```sql
select *
from Customers;
```

Data Output | Explain | Messages | Notifications

	pid [PK] integer	paymentterms text	discountpct numeric (5,2)
1	1	Net 30	21.12
2	4	Net 15	4.04
3	5	In Advance	5.50
4	7	On Receipt	2.00
5	8	Net 30	10.00

```
1  select *
2  from Agents;
```

Data Output | Explain | Messages | Notifications

	pid [PK] integer	paymentterms text	commissionpct numeric (5,2)
1	2	Quarterly	5.00
2	3	Annually	10.00
3	5	Monthly	2.00
4	6	Weekly	1.00

```sql
select *
from Products;
```

Data Output | Explain | Messages | Notifications

	prodid [PK] character (3)	name text	city text	qtyonhand integer	priceusd numeric (10,2)
1	p01	Heisen...	Dallas	47	67.50
2	p02	Univers...	Newark	2399	5.50
3	p03	Comm...	Duluth	1979	65.02
4	p04	LCARS ...	Duluth	3	47.00
5	p05	Remo d...	Dallas	8675309	16.61
6	p06	Trapper...	Dallas	1982	2.00
7	p07	Flux Ca...	Newark	1007	1.00
8	p08	HAL 90...	Newark	200	1.25
9	p09	Red Ba...	Toronto	1	379000.47

```
1  select *
2  from Orders;
```

Data Output | Explain | Messages | Notifications

	ordernum [PK] integer	dateordered date	custid integer	agentid integer	prodid character (3)	quantityordered integer	totalusd numeric (12,2)
1	1011	2020-01-23	1	2	p01	1100	58568.40
2	1012	2020-01-23	4	3	p03	1200	74871.83
3	1015	2020-01-23	5	3	p05	1000	15696.45
4	1016	2020-01-23	8	3	p01	1000	60750.00
5	1017	2020-02-14	1	3	p03	500	25643.88
6	1018	2020-02-14	1	3	p04	600	22244.16
7	1019	2020-02-14	1	2	p02	400	1735.36
8	1020	2020-02-14	4	5	p07	600	575.76
9	1021	2020-02-14	4	5	p01	1000	64773.00
10	1022	2020-03-15	1	3	p06	450	709.92
11	1023	2020-03-15	1	2	p05	500	6550.98
12	1024	2020-03-15	5	2	p01	880	56133.00
13	1025	2020-04-01	8	3	p07	888	799.20
14	1026	2020-05-01	8	5	p03	808	47282.54

The data in the CAP snapshot are the same as the data in pgAdmin.

Primary key is the chosen candidate key which means that it uniquely identifies every row in the table. The primary key is in every table and it identifies something special to a specific item in the table. The candidate key is the minimal super key. Unlike the primary key, a

candidate key can have multiple candidate keys in a table. A superkey is any field or set of fields that uniquely identify every row in a table.

Some examples of data types are character string, bit string, booleans, integers, floating point numbers, and date and time. For example, something that you might create a table for is a song. The name of the table would be song and in the column would be name, artist, producers, and date released. The data type for name, artist, and producers would all be character strings. The data type for date released would be date and time. None of them will be nullable. This is one example of what a table using these data types would look like but there are a countless amount of other variations.

The “First Normal Form” rule states that there can be no multi-valued attributes or values with internal structure, there can be no repeating groups or fields, and all values at intersections or rows or columns cannot be subdivided. This rule is important so that nothing is repeated and that when looking for specific items, there are no repeating items. An example of this is if two items are separated by a comma which would be a violation of the first normal rule because columns cannot be subdivided. The “Access Rows by Content Only” rule states that someone can only ask for query data by what’s there, never by where it is. This rule is important because it makes the query more specific and less general. An example of this rule is when you ask for the value of an ID number, rather than asking for the value of the first row since that is asking where it is. The “All Rows Must Be Unique” rule states that all rows must be different and unique. This rule is important because that way items are not repeated and can find the specific value. An example of this is if there is a table with two people that have the same information of

what state they live in, what town they live in, and what address they live at, but they have different names, then that would make them unique.