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CMPT 308N

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Lab 2 – CAP Database

1.

People

	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…

Customers

	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

Agents

	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

Products

	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

Orders

	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 of the tables above are the same as the data provided in Lab 2.

2. Keys is an attribute or a set of attributes which help to identify a row in any table and t can help to find the relation between tables. A super key is any field, specifically a column, or a set of fields that uniquely identify every row in a table. A candidate key is a minimal super key and a primary key is a chosen candidate key.
3. Data types are classifications that are used to identify possible values and operations that could be done on the data. The following are all examples of data types: character strings, bit strings, Booleans, integers, floating point numbers, and dates and time. For example, a tweet on Twitter uses a few data types. The actual content tweet and the person who tweeted it would be a character string data type. The number of retweets, replies, and the number of quoted retweets is an integer data type, but it could also be nullable as there could be no one who retweets it, replies to it, or even quotes the tweet. The tweet also has a date and time data type because it has a timestamp of when the tweet is tweeted. The character, date, and time data types are not nullable as it is required for a tweet to exist.
4. The “first normal form” rule can be no multi-valued attributes or values with internal structure at any intersection of a row and a column in a table. In other words, is has no repeating groups or repeating fields and all values must be atomic, meaning that it cannot be subdivided. For example, if a row contained the values of colors and a cell had two colors, it would not fit the “first normal form” rule because it contains multiple values. To be specific if one cell had “blue” and the second cell had “red, yellow” would not work because of the two colors being separated by a comma. The “access rows by content only” rule can only be asked for its “query” data by what is there and never by

where it is. For example, one could ask a specific name like “What is the name of the PID 007?”, but not “What is the name of the first row?”. All the tables are already set and has no intrinsic order. The “all rows must be unique” rule has tables that are sets of rows and columns and the elements of a set have no intrinsic order. The only way to ensure the ability to get at every row in a table is for every row to be unique. For example, there could be a couple on the table with their addresses being the same, but it will be able to fit this rule because the information is attached to a different name.