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ua100
Problem Set 1
Database Systems II at 9:30 AM

January 17, 2021

Critical Thinking

1.

A.C1	A.C2	A.C3	C.C1	C.C2
2	C	Y	Y	2
4	E	Y	Y	2

2.

A.C1	A.C2	A.C3	A.C4	A.C5	C.C1	C.C2
4	E	Y	4	C	Y	2

3.

A.C1	A.C2	A.C3	B.C4	B.C5
2	C	Y	3	C
2	C	Y	4	C
3	D	Z	4	C

4.

B.C4	B.C5	C.C1	C.C2
3	C	Y	2
4	C	Y	2
4	C	X	3

5.

A.C1	A.C2	A.C3	B.C4	B.C5
2	C	Y	3	C
2	C	Y	4	C
3	D	Z	3	C
3	D	Z	4	C
4	E	Y	3	C
4	E	Y	4	C

6. 12

7. 5

Query Development

8. == SQL ================
SELECT COUNT(*) AS "CARDINALITY OF TRANSACTIONS"
FROM TRANSACTIONS

== RESULT ============
CARDINALITY OF TRANSACTIONS
————————————————

200

9. == SQL ================
SELECT COUNT(*) AS "CARDINALITY OF TRANSACTIONS"
FROM TRANSACTIONS
WHERE TRANS_DATE BETWEEN '10-05-2019' AND '10-12-2019'

== RESULT ============
CARDINALITY OF TRANSACTIONS
————————————————

88

10. == SQL ================
SELECT EMP_LAST_NAME, EMP_FIRST_NAME, SUM(TRANS_AMT)
FROM EMPLOYEE, TRANSACTIONS
GROUP BY EMP_LAST_NAME, EMP_FIRST_NAME
HAVING EMP_FIRST_NAME LIKE 'M%' AND EMP_LAST_NAME LIKE
'M%'

== RESULT ============
EMP_LAST_NAME EMP_FIRST_NAME 3
————— ———— ——

Murphy Maile 112932
Mcintyre Minerva 112932

11. == SQL ================
SELECT TRANS_DATE, SUM(TRANS_AMT), MAX(TRANS_AMT), MIN(TRANS_AMT),
AVG(TRANS_AMT)
FROM TRANSACTIONS
GROUP BY TRANS_DATE
HAVING TRANS_DATE BETWEEN '10-01-2019' AND '10-05-2019'

== RESULT ============
TRANS_DATE 2 3 4 5
————— —— —— —— ——

2019-10-01 6815 962 105 619
2019-10-02 8578 934 196 571
2019-10-03 4494 900 127 408
2019-10-04 5859 865 280 585
2019-10-05 3557 662 182 444

12. == SQL ===============
SELECT PROP_CITY, PROP_STATE, EMP_LAST_NAME, EMP_FIRST_NAME
FROM TRANSACTIONS T, PROPERTY P, EMPLOYEE E
WHERE T.PROPERTY_ID = PROP_ID AND E.EMP_ID = T.EMP_ID
AND PROP_ROOMS >= 4 AND TRANS_AMT > 800

== RESULT ============
PROP_CITY PROP_STATE EMP_LAST_NAME EMP_FIRST_NAME
————————- ————- ————- ————

Middlebury Illinois Alvarez Martina
Basin New Jersey Meyer Stephen
Lodi Florida Head Sybill
Citrus Heights Pennsylvania Delacruz Jenna
Redding Missouri Mcguire Hilda
Newport Beach Nebraska Sherman Jordan
Newark Vermont Hahn August
Nome South Dakota Patterson Fallon
North Las Vegas Maine Bradley Charissa
Biloxi Arkansas Cox Tyler
Biloxi Arkansas Hoffman Xyla
Lodi Florida Ware Buffy
Farmer City Washington Delgado Lenore
Gary Massachusetts Wagner Carla
Seal Beach Maine Ball Price
Seal Beach Maine Flores Natalie
North Las Vegas Maine Stevens Urielle
Edina Massachusetts Bowers Mallory
Middlebury Illinois Ramos Gwendolyn