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===== CIS310 ASSIGNMENT 8 =====

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--** YOU MUST USE THE PROPER JOIN KEYWORD FOR TABLE JOINS. Or the query will be considered unexecutable**

--** e.g. INNER JOIN/LEFT OUTER JOIN/RIGHT JOIN/ CROSS JOIN**

For each of the following business question, PROVIDE THE SQL Query that adegetely output the requested information

These queries are based on STAYWELL DB Tables and their data contents

The Expected Output Tables are at the end of file, to help you check your queries

Grading:

Proper Code Formatting is 20% of homework grade

Executable code can earn up to 100% of the grade

Unexecutable code can only earn up to a max of 50% of the grade

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=====SOLUTION=====

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--1. For every property, list the management office number, property address, monthly rent, owner number, owner's first name, and owner's last name.

SELECT P.OFFICE_NUM, P.ADDRESS, P.MONTHLY_RENT, P.OWNER_NUM, O.FIRST_NAME, O.LAST_NAME

FROM PROPERTY P

INNER JOIN OWNER O ON P.OWNER_NUM = O.OWNER_NUM;

--2. For every service request for 'Furniture Replacement', list the property ID, management office number, address, estimated hours, spent hours, owner number, and owner's last name.

--HINT: similar to last homework, be sure to use the specified keyword phrases in your querying (nested query)

SELECT PROPERTY.PROPERTY_ID, OFFICE.OFFICE_NUM, OFFICE.ADDRESS AS OFFICE_ADDRESS, SERVICE_REQUEST.EST_HOURS

SERVICE_REQUESTSPENT_HOURS, OWNER.OWNER_NUM, OWNER.LAST_NAME

FROM PROPERTY

INNER JOIN SERVICE_REQUEST ON PROPERTY.PROPERTY_ID = SERVICE_REQUEST.PROPERTY_ID

INNER JOIN OFFICE ON PROPERTY.OFFICE_NUM = OFFICE.OFFICE_NUM

INNER JOIN OWNER ON PROPERTY.OWNER_NUM = OWNER.OWNER_NUM

INNER JOIN SERVICE_CATEGORY ON SERVICE_REQUEST.CATEGORY_NUMBER = SERVICE_CATEGORY.CATEGORY_NUM

WHERE SERVICE_CATEGORY.CATEGORY_DESCRIPTION = 'Furniture replacement';

-- kind got stuck on this one for a long time i don't think i got it completely right

--3. List the owner's id, first and last names of all owners who own a two-bedroom property.

--Use the IN operator in your query.

SELECT OWNER_NUM, FIRST_NAME, LAST_NAME

FROM OWNER

WHERE OWNER_NUM IN (SELECT OWNER_NUM

FROM PROPERTY

WHERE BDRMS = 2);

--4. Repeat above request, but this time use the EXISTS operator in your query.

SELECT OWNER_NUM, FIRST_NAME, LAST_NAME

FROM OWNER O

WHERE EXISTS (SELECT 1

FROM PROPERTY P

WHERE P.OWNER_NUM = O.OWNER_NUM AND P.BDRMS = 2);

--5. List the property IDs of any pair of properties that have the same number of bedrooms.

--For example, one pair would be property ID 2 and property ID 6,

--because they both have four bedrooms. The first property ID listed should be the major sort key

--and the second property ID should be the minor sort key.

SELECT P1.PROPERTY_ID AS PROPERTY1_ID, P2.PROPERTY_ID AS PROPERTY2_ID

FROM PROPERTY P1, PROPERTY P2

WHERE P1.BDRMS = P2.BDRMS AND P1.PROPERTY_ID < P2.PROPERTY_ID;

--6. List the office number, address, and monthly rent for properties whose owners live in Washington State or own two-bedroom properties.

SELECT DISTINCT P.OFFICE_NUM, O.ADDRESS, P.MONTHLY_RENT

FROM PROPERTY P

INNER JOIN OWNER O ON P.OWNER_NUM = O.OWNER_NUM

WHERE O.STATE = 'WA' OR P.BDRMS = 2;

--7. List the office number, address, monthly rent, bedroom count, and state for properties
--whose owners live in Washington State but do not own two-bedroom properties.

SELECT DISTINCT P.OFFICE_NUM, O.ADDRESS, P.MONTHLY_RENT, P.BDRMS, O.STATE
FROM PROPERTY P
INNER JOIN OWNER O ON P.OWNER_NUM = O.OWNER_NUM
WHERE O.STATE = 'WA' AND P.BDRMS != 2;

--8. Find the service ID and property ID for each service request
--whose estimated hours is greater than the number of estimated hours of at least
--one service request on which the category number is 5.
--MUST USE ANY/ALL OPERATOR

SELECT SERVICE_ID, PROPERTY_ID
FROM SERVICE_REQUEST
WHERE EST_HOURS > ALL (SELECT EST_HOURS
FROM SERVICE_REQUEST
WHERE CATEGORY_NUMBER = 5);

--9. List the address, square footage, owner number, service ID, number of estimated hours,
--and number of spent hours for each service request on which the category number is 4.

SELECT P.ADDRESS, P.SQR_FT, P.OWNER_NUM, SR.SERVICE_ID, SR.EST_HOURS, SR.SPENT_HOURS
FROM SERVICE_REQUEST SR
INNER JOIN PROPERTY P ON SR.PROPERTY_ID = P.PROPERTY_ID
WHERE SR.CATEGORY_NUMBER = 4;

--10. Output the same list of information above request, but this time be sure each property is included
--regardless of whether the property currently has any service requests.
--*Hint: Consider a different join type.

SELECT P.ADDRESS, P.SQR_FT, P.OWNER_NUM, SR.SERVICE_ID, SR.EST_HOURS, SR.SPENT_HOURS
FROM PROPERTY P
LEFT JOIN SERVICE_REQUEST SR ON P.PROPERTY_ID = SR.PROPERTY_ID AND SR.CATEGORY_NUMBER = 4;

----- Expected Output Tables -----
-----Best used *AFTER* you've come up with your queries -----

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Q1:

OFFICE_NUM	ADDRESS	MONTHLY_RENT	OWNER_NUM	FIRST_NAME	LAST_NAME
1	30 West Thomas Rd.	1400	BU106	Ernest	Burke
1	782 Queen Ln.	1900	AK102	Ceyda	Aksoy
1	9800 Sunbeam Ave.	1200	BI109	Nicole	Bianchi
1	105 North Illinois Rd.	1650	KO104	Jakub	Kowalczyk
1	887 Vine Rd.	1160	SI105	Haydon	Sims
1	8 Laurel Dr.	2050	MO100	Elle-May	Moore
2	447 Goldfield St.	1700	CO103	Meerab	Cole
2	594 Leatherwood Dr.	2750	KO104	Jakub	Kowalczyk
2	504 Windsor Ave.	1050	PA101	Makesh	Patel
2	891 Alton Dr.	1600	LO108	Janine	Lopez
2	9531 Sherwood Rd.	1100	JO110	Ammarah	Jones
2	2 Bow Ridge Ave.	1700	RE107	Seth	Redman

Q2:

PROPERTY_ID	OFFICE_NUM	ADDRESS	EST_HOURS	SPENT_HOURS	OWNER_NUM	LAST_NAME
12	2	2 Bow Ridge Ave.	2	0	RE107	Redman

OWNER_NUM	LAST_NAME
BI109	Bianchi
JO110	Jones
PA101	Patel
SI105	Sims

Q3:

OWNER_NUM	FIRST_NAME	LAST_NAME
BI109	Nicole	Bianchi
JO110	Ammarah	Jones
PA101	Makesh	Patel
SI105	Haydon	Sims

Q4:

OWNER_NUM	FIRST_NAME	LAST_NAME
BI109	Nicole	Bianchi
JO110	Ammarah	Jones
PA101	Makesh	Patel

Q5:

PROPERTY_ID	PROPERTY_ID	BDRMS
1	4	3
1	7	3
1	10	3
1	12	3
2	6	4
3	5	2
3	9	2
3	11	2
4	7	3
4	10	3
4	12	3
5	9	2
5	11	2
7	10	3
7	12	3
9	11	2
10	12	3

Q6:

OFFICE_NUM	ADDRESS	MONTHLY_RENT
1	105 North Illinois Rd.	1650
1	782 Queen Ln.	1900
1	887 Vine Rd.	1160
1	9800 Sunbeam Ave.	1200
2	2 Bow Ridge Ave.	1700
2	447 Goldfield St.	1700
2	504 Windsor Ave.	1050
2	594 Leatherwood Dr.	2750
2	891 Alton Dr.	1600
2	9531 Sherwood Rd.	1100

Q7:

OFFICE_NUM	ADDRESS	MONTHLY_RENT	BDRMS	STATE
1	105 North Illinois Rd.	1650	3	WA
1	782 Queen Ln.	1900	4	WA
2	2 Bow Ridge Ave.	1700	3	WA
2	447 Goldfield St.	1700	3	WA
2	594 Leatherwood Dr.	2750	5	WA
2	891 Alton Dr.	1600	3	WA

Q8:

SERVICE_ID	PROPERTY_ID
5	8
6	4
8	9

Q9:

ADDRESS	SQR_FT	OWNER_NUM	SERVICE_ID	EST_HOURS	SPENT_HOURS	CATEGORY_NUMBER
30 West Thomas Rd.	1600	BU106	2	1	0	4
782 Queen Ln.	2100	AK102	4	1	0	4

Q10:

ADDRESS	SQR_FT	OWNER_NUM	SERVICE_ID	EST_HOURS	SPENT_HOURS	CATEGORY_NUMBER
30 West Thomas Rd.	1600	BU106	2	1	0	4
782 Queen Ln.	2100	AK102	4	1	0	4
782 Queen Ln.	2100	AK102	7	1	0	2
9800 Sunbeam Ave.	1005	BI109	NULL	NULL	NULL	NULL
105 North Illinois Rd.	1750	KO104	6	4	2	1
887 Vine Rd.	1125	SI105	NULL	NULL	NULL	NULL
8 Laurel Dr.	2125	MO100	3	3	1	5
447 Goldfield St.	1675	CO103	NULL	NULL	NULL	NULL
594 Leatherwood Dr.	2700	KO104	5	10	0	3
504 Windsor Ave.	700	PA101	8	6	2	1
891 Alton Dr.	1300	LO108	NULL	NULL	NULL	NULL
9531 Sherwood Rd.	1075	JO110	1	2	1	2
2 Bow Ridge Ave.	1400	RE107	9	2	0	6