Assignment 2 – Database and Information Modelling

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Q.1 List the ten most common tenant surnames and how many have each name.

Ans.1 SELECT

surname, COUNT(surname) AS count

FROM

tenant

GROUP BY surname

ORDER BY count DESC

LIMIT 10;



Results returned: 10

Q.2 How many properties have never been rented, and what is their average rent?

Ans.2. select count(id), avg(rent) from property

where id not in

(select property from tenancy);



Results Returned:

1

Q.3 The tenant "Deidra Kingsley" just phoned the office. Find the address of their current tenancy (not a tenancy that has already ended).

```
Ans.3 SELECT
```

```
Property.id AS unitnum,
propertynum,
street,
suburb,
postcode

FROM
Property
INNER JOIN
Tenancy ON property.id = tenancy.Property
INNER JOIN
Tenant ON tenancy.Tenant = tenant.id

WHERE
givenName = 'deidra'
AND surname = 'kingsley'
AND dateEnd IS NULL;
```

	unitnum	propertynum	street	suburb	postcode
•	354	67	Kay street	Carlton	3053

Q.4 List out all the tenants who were renting shared accommodation on the 1st of January, 2015.

Ans.4 SELECT DISTINCT

(Tenant.id), givenName, tenant.surname

FROM

Tenancy

INNER JOIN

Property ON tenancy.Property = property.id

INNER JOIN

shared ON shared.id = property.id

INNER JOIN

tenant ON tenancy.tenant = tenant.id

WHERE

dateEnd >= 2015 - 01 - 01

OR dateEnd IS NULL

ORDER BY surname;

	id	givenName	surname
•	41	Birdie	Hillsman
	67	Davida	Lee
	117	Sophia	Sharma
	129	Noah	Smith
	128	William	Smith
	132	Thomas	Sova
	148	Ruby	Wang
	174	Emma	Wilson
	185	Charlie	Yang

Q.5 For each property type show the number of properties and the average advertised rent for that type.

Ans.5.

SELECT
PropertyType, COUNT(PropertyType), AVG(rent)
FROM
property
GROUP BY PropertyType;

	PropertyType	COUNT(PropertyType)	AVG(rent)
•	A	225	395.4756
	Н	652	479.4417
	S	107	144.3645

Results Returned: 3

Q.6 List all the tenancies which have completed. For each tenancy, show the total rent paid over the period of the tenancy.

Ans.6. SELECT

tenancy.tenant AS Tenant,
tenancy.Property,
(DATEDIFF(dateEnd, dateStart) / 7) * tenancy.rent AS Total
FROM
Tenancy
WHERE
dateEnd IS NOT NULL
ORDER BY Total DESC;

	Tenant	Property	Total
١	47	176	52038.5714
	117	859	44425.7143
	11	338	41714.2857
	70	504	41714.2857
	160	13	37751.4286
	5	666	35352.8571
	146	378	34310.0000
	86	815	31807.1429
	15	155	29512.8571
	194	386	29095.7143
	98	820	29095 7143

Results Returned: 79

Q.7. Show the total income from completed tenancies for each postcode. Your answer should look like a table with two columns and one row per postcode.

Ans.7: SELECT

Property.Postcode AS Postcode,
SUM(DATEDIFF(dateEnd, dateStart) / 7 * tenancy.rent) AS Total

FROM

property

INNER JOIN

tenancy ON Property.id = tenancy.property

WHERE

tenancy.dateEnd IS NOT NULL

GROUP BY property.postcode;

	Postcode	Total
١	3053	931427.8572
	3065	846839.2854

Q.8. In which streets do most of our current tenants live? List the top ten streets and the number of current tenancies in each.

Ans.8:

SELECT

Property.street AS Street,

COUNT(Property.id) AS currenttenants

FROM

property

INNER JOIN

Tenancy ON Property.id = Tenancy.Property

WHERE

dateEnd IS NULL

GROUP BY Street

ORDER BY currenttenants DESC

LIMIT 10;

	Street	currenttenants
١	Drummond street	5
	Little charles street	3
	Brunswick street	3
	Bouverie street	2
	Argyle street	2
	Smith street	2
	Kerr street	2
	Nicholson street	1
	Cardigan street	1
	Grattan street	1

Q.9. Print a table grouping all houses and apartments by number-of-rooms, showing the average advertised rent for each number.

Ans.9:

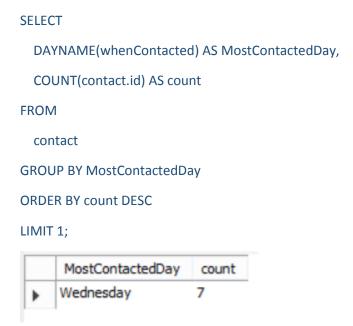
```
SELECT
  bedrooms, AVG(rent)
FROM
  ((SELECT
    Property.id AS ID,
      House.numBedrooms AS bedrooms,
      Property.rent AS rent
  FROM
    property
  INNER JOIN House ON House.id = property.id) UNION (SELECT
    Property.id AS ID,
      Apartment.numBedrooms AS bedrooms,
      Property.rent AS rent
  FROM
    property
  INNER JOIN Apartment ON apartment.id = property.id)) trial
```

GROUP BY bedrooms;

	bedrooms	AVG(rent)
•	1	347.9675
	2	400.0146
	3	449.4812
	4	546.7605

Q.10. On which day of the week (Monday, Tuesday etc.) are most contacts from tenants received? Show how many contacts have been received on that day.

Ans.10:



Results Returned: 1

Q.11: Which of our tenants have taken out more than one tenancy, and are also current tenants? List their given and surnames and the number of tenancies each has had.

Ans.11:

```
tenant.givenName,
tenant.surname,
COUNT(*) AS numberoftenancies

FROM
tenant
INNER JOIN
tenancy ON tenancy.Tenant = tenant.id

WHERE
tenancy.Tenant IN (SELECT
```

tenancy.Tenant

FROM

tenancy

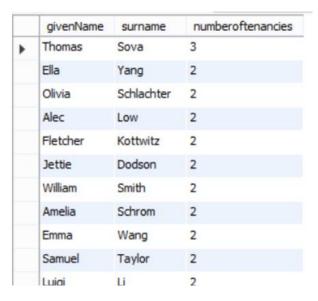
WHERE

dateEnd IS NULL)

GROUP BY tenancy. Tenant

HAVING COUNT(*) > 1

ORDER BY COUNT(*) DESC;



Results Returned: 18

Q.12. Print a list (one column without duplicates) of the different ways tenants used to contact us about rent (i.e. the comments include the word "rent").

Ans.12:

SELECT DISTINCT

(contacttype.description) AS Ways

FROM

contact

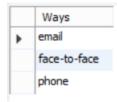
INNER JOIN

contacttype ON contacttype.id = contact.ContactType

WHERE

comments LIKE '%rent%'

GROUP BY Ways;



Q.13. what percentage of our contacts with tenants include the word 'cat'?

Ans.13:SELECT

```
@catcount / @totalcount * 100 AS percentage
FROM
   (SELECT
          @catcount:=COUNT(*)
FROM
          contact
WHERE
          comments LIKE '%cat%' UNION SELECT
          @totalcount:=COUNT(*) AS totalcount
FROM
          contact) cats
LIMIT 1;
          percentage
```

Q.14. Those tenants who have called about cats - do they currently live in houses, apartments or shared accommodation? Print a table showing the number of cat-related contacts from each of these three types of accommodation.

```
Ans.14:
SELECT
  propertytype.description AS PropertyType, COUNT(*) AS Total
FROM
  property
    INNER JOIN
  tenancy ON property.id = tenancy.Property
    INNER JOIN
  propertytype ON property.PropertyType = propertytype.id
WHERE
  tenancy.Tenant IN (SELECT
      contact.Tenant
    FROM
      contact
    WHERE
      comments LIKE '%cat%')
and
tenancy.dateEnd is null
GROUP BY propertytype.description
ORDER BY COUNT(*) DESC;
       PropertyType
                       Total
      House
```

Apartment

Q.15. List the tenants who have contacted us in all the different ways there are to make contact. Show their id, given name and surname.

Ans.15.

SELECT

Tenant.id,

tenant.givenName,

tenant.surname,

COUNT(DISTINCT (contact.contacttype)) AS Ways

FROM

contact

INNER JOIN

Tenant ON contact.Tenant = tenant.id

GROUP BY tenant.id

ORDER BY Ways DESC;

	id	givenName	surname	Ways
۰	198	Lucas	Zhou	3
	148	Ruby	Wang	1
	37	Fidelia	Hampson	1
	82	Alec	Low	1
	128	William	Smith	1
	155	Ava	Wang	1
	44	Heriberto	Howse	1
	84	Elia	Martin	1
	132	Thomas	Sova	1
	174	Emma	Wilson	1
	53	Helen	Kelly	1