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SQL with Big Query :

Tables Schema:

1) Owners table

Field name	Type	Mode
OwnerID	INTEGER	NULLABLE
Name	STRING	NULLABLE
Surname	STRING	NULLABLE
StreetAddress	STRING	NULLABLE
City	STRING	NULLABLE
State	STRING	NULLABLE
StateFull	STRING	NULLABLE
ZipCode	INTEGER	NULLABLE

2) Pet Table

Field name	Type	Mode
PetID	STRING	NULLABLE
Name	STRING	NULLABLE
Kind	STRING	NULLABLE
Gender	STRING	NULLABLE
Age	INTEGER	NULLABLE
OwnerID	INTEGER	NULLABLE

3) Procedure History table

Field name	Type	Mode
PetID	STRING	NULLABLE
Date	DATE	NULLABLE
ProcedureType	STRING	NULLABLE
ProcedureSubCode	INTEGER	NULLABLE

4) Procedure Details table

Field name	Type	Mode
ProcedureType	STRING	NULLABLE
ProcedureSubCode	INTEGER	NULLABLE
Description	STRING	NULLABLE
Price	INTEGER	NULLABLE

Queries

1) List of top 10 number of owners of pets from each city.

```
select city, count(*) as no_of_owners
from assigments-382013.ba.owners
group by city
order by count(city) desc
limit 10
```

city	no_of_owners
Southfield	15
Grand Rapids	10
Detroit	7
Lansing	6
Marquette	4
Bloomfield Township	4
Pontiac	3
Saginaw	3
Ann Arbor	2
Kalamazoo	2

2) Maximum price , minimum price , avg price of the price of pet's treatment

```
select Min(price) as MIN_price , max(price) as MAX_price ,
round(avg(price)) as AVG_price
from  assigments-382013.ba.ProceduresDetails
```

MIN_price	MAX_price	Average_price
10	775	195.39

3) List number of pets owned with respect to its gender

```
select kind, gender, count(kind) as No_of_pets
from assigments-382013.ba.pets
group by kind , gender
```

kind	gender	No_of_pets
Cat	male	19
Cat	female	12
Dog	female	22
Dog	male	35
Parrot	female	7
Parrot	male	5

4) List of people who have more than two pets.

```
select own.name , count(pet.kind) as no_of_pets_owned
from assigments-382013.ba.owners as own
left join assigments-382013.ba.pets as pet
on own.ownerid = pet.ownerid
group by own.name
having no_of_pets_owned >= 3
order by no_of_pets_owned desc
```

name	no_of_pets_own
Robert	6
Charles	4
John	3
Susan	3
Bruce	3
Lee	3
Stacey	3

5) List of pets details, owner name and city, where pets age is greater than 13

```
select pet.* , own.name as owner_name , own.city
from assigments-382013.ba.pets as pet
left join assigments-382013.ba.owners as own
on own.ownerid = pet.ownerid
where age > 13
```

```
order by age desc
```

PetID	Name	Kind	Gender	Age	OwnerID	owner_name	city
N8-0553	Tiger	Dog	male	15	7393	Tom	Grand Ledge
W8-5750	Simba	Cat	male	15	6102	Robert	Marquette
T2-2142	Stowe	Cat	female	15	1132	Rosa	Southfield
N0-9539	Swiffer	Cat	male	14	9365	Bruce	Livonia
P1-2578	Tiger	Cat	male	14	3034	Paul	Southfield
Q9-1565	Scout	Dog	female	14	1766	Doris	Farmington Hills
P9-3625	Cuddles	Dog	male	14	7579	Ricardo	Ann Arbor

6) Name of top 3 owner with highest number of pets

```
select own.ownerid, concat(own.name," ",own.surname) as owner_name ,
count(pet.kind) as owned_pets
from assigments-382013.ba.pets as pet
left join assigments-382013.ba.owners as own
on own.ownerid = pet.ownerid
group by own.ownerid, own.name, own.surname
order by owned_pets desc
limit 3
```

ownerid	owner_name	owned_pets
5508	Charles Swarey	3
3089	Lee McKenzie	3
8133	Stacey Randolph	3

7) Total spending for a male dog

```
with male_dogs as
  ( select *
    from assigments-382013.ba.pets
    where  kind="dog" and gender="male"
    limit 1 )
select sum(pd.price) as Total_Amount_For_A_MaleDog
from  male_dogs as pet
```

```
right join assigments-382013.ba.ProceduresHistory as ph
on pet.petid = ph.petid
right join assigments-382013.ba.ProceduresDetails as pd
on pd.proceduretype = ph.proceduretype
and pd.proceduresubcode = ph.proceduresubcode\
```

Total_Amount_For_A_MaleDog
2335

8) Top 3 people who spend more on their pet

```
select own.name, sum(pd.price) as Total_Amount_For_Pet
from  assigments-382013.ba.ProceduresDetails as pd
left join assigments-382013.ba.ProceduresHistory as ph
on pd.proceduretype = ph.proceduretype
and pd.proceduresubcode = ph.proceduresubcode
left join assigments-382013.ba.pets as pet
on pet.petid = ph.petid
right join assigments-382013.ba.owners as own
on own.ownerid = pet.ownerid
group by own.name
order by Total_Amount_For_Pet desc
limit 3
```

name	Total_Amount_For_Pet
Daniel	450
Jerry	400
Ricardo	325

9) Average price for a pet to maintained

```
select round(avg(pd.price),2) as average_price_for_a_pet
from assigments-382013.ba.pets as pet
left join assigments-382013.ba.owners as own
on own.ownerid = pet.ownerid
left join assigments-382013.ba.ProceduresHistory as ph
```

```
on ph.petid = pet.petid
left join assigments-382013.ba.ProceduresDetails as pd
on pd.proceduretype = ph.proceduretype
and pd.proceduresubcode = ph.proceduresubcode
```

average_price_for_a_pet
56.95

10) Current highest paid treatments by owners for their pets

```
select pd.* , ph.petid , ph.date,pet.name , pet.kind ,pet.gender,
concat(own.name," ",own.surname) as owner_name , own.city
from assigments-382013.ba.ProceduresDetails as pd
left join assigments-382013.ba.ProceduresHistory as ph
on pd.proceduretype = ph.proceduretype and pd.proceduresubcode =
ph.proceduresubcode
right join assigments-382013.ba.pets as pet
on pet.petid = ph.petid
left join assigments-382013.ba.owners as own
on own.ownerid = pet.ownerid
order by price desc
limit 5
```

ProcedureType	Proc	Description	Price	petid	date	name	kind	gender	owner_name	city
GENERAL SURGERIES	17	Radical Mastectomy	450	J1-6366	2016-10-22	Bruce	Dog	male	Daniel Fay	Grand Rapids
ORTHOPEDIC	1	Amput. per lim thor.	400	L0-6660	2016-08-02	Cookie	Dog	male	Jerry Reyna	Grand Rapids
ORTHOPEDIC	7	Pinning-I.M.	325	P9-3625	2016-01-30	Cuddles	Dog	male	Ricardo Peterson	Ann Arbor
ORTHOPEDIC	5	Lx Patella Repair	305	M2-1131	2016-12-01	Rumba	Cat	male	Christopher Bowers	Detroit
GENERAL SURGERIES	8	Umbilical	175	J6-8562	2016-08-21	Blackie	Dog	male	Robert Foster	Grand Rapids