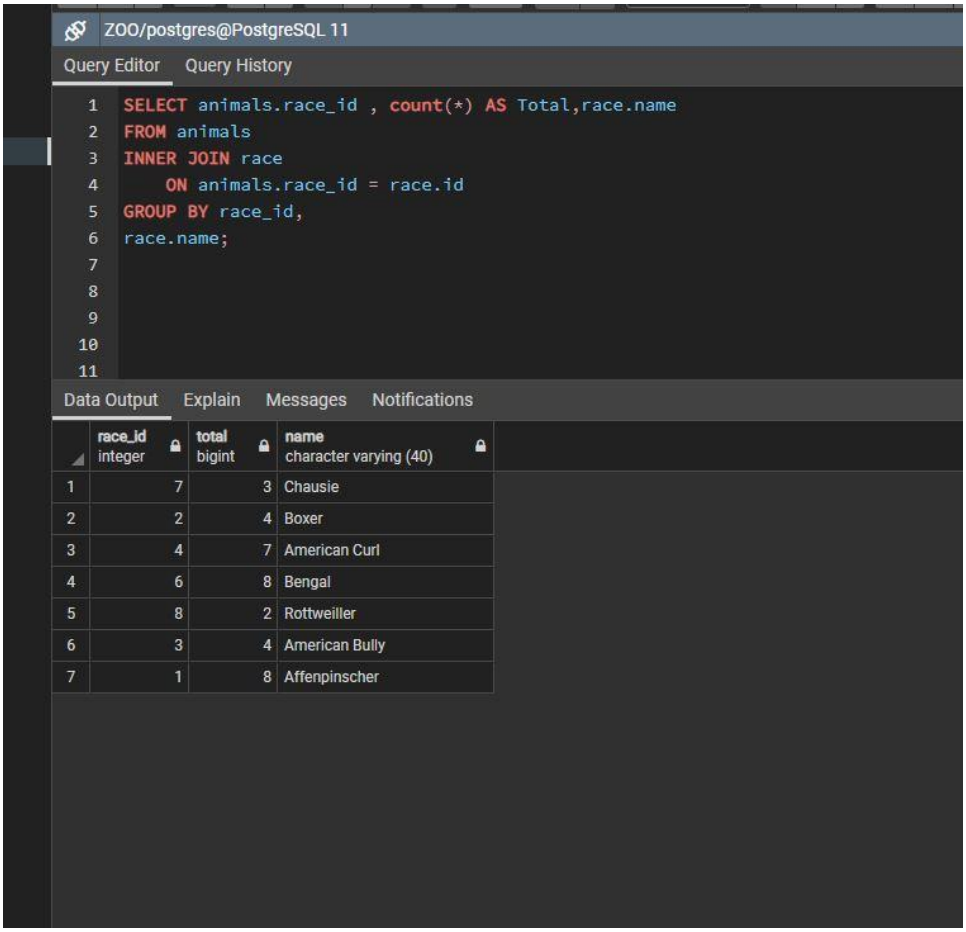
Programming

Title

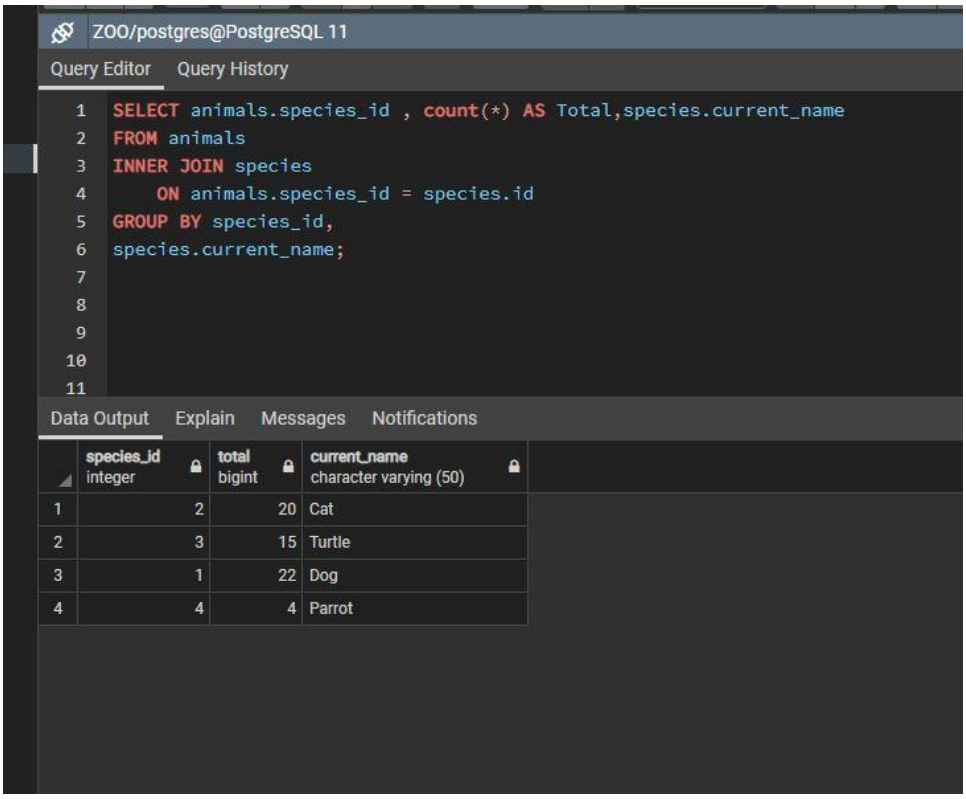
Student(s)	Shabnam Rezaei
Student Number	5298191
Course	Database Concepts and Applications
Session	
Teacher	
Date	2022-09-18

EASY

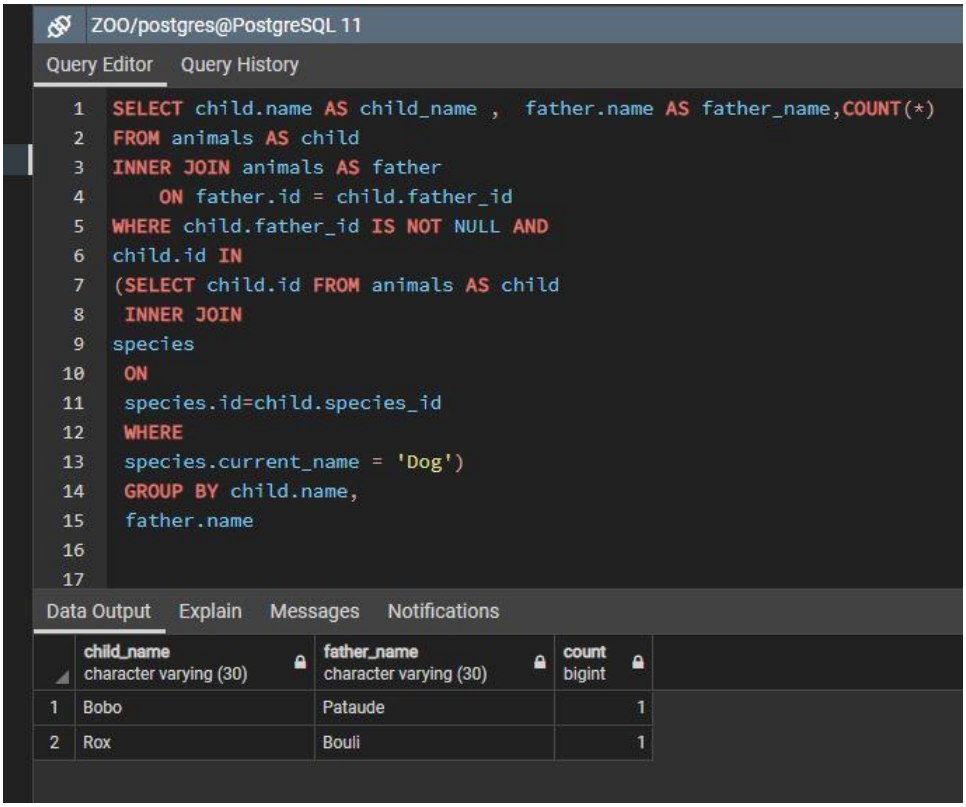
1. How many races exist in the animals table? (Display all of their name)



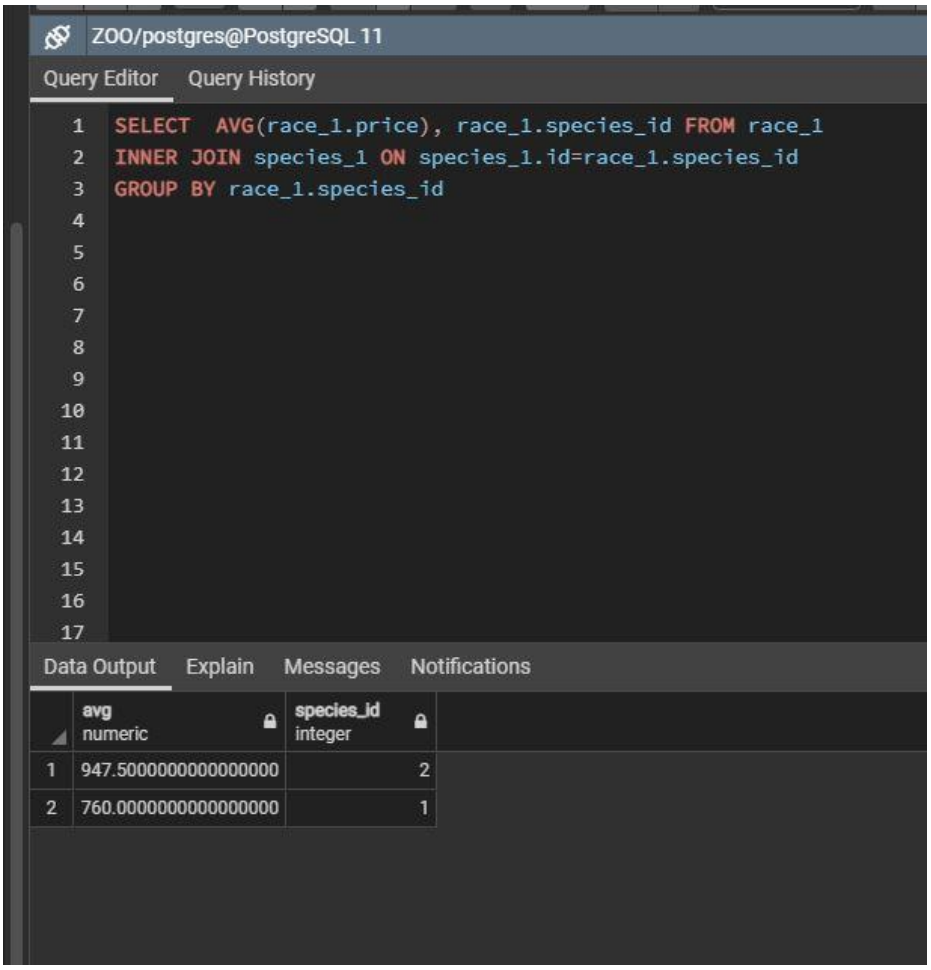
2. How many species exist in the races table? (Display all of their name)



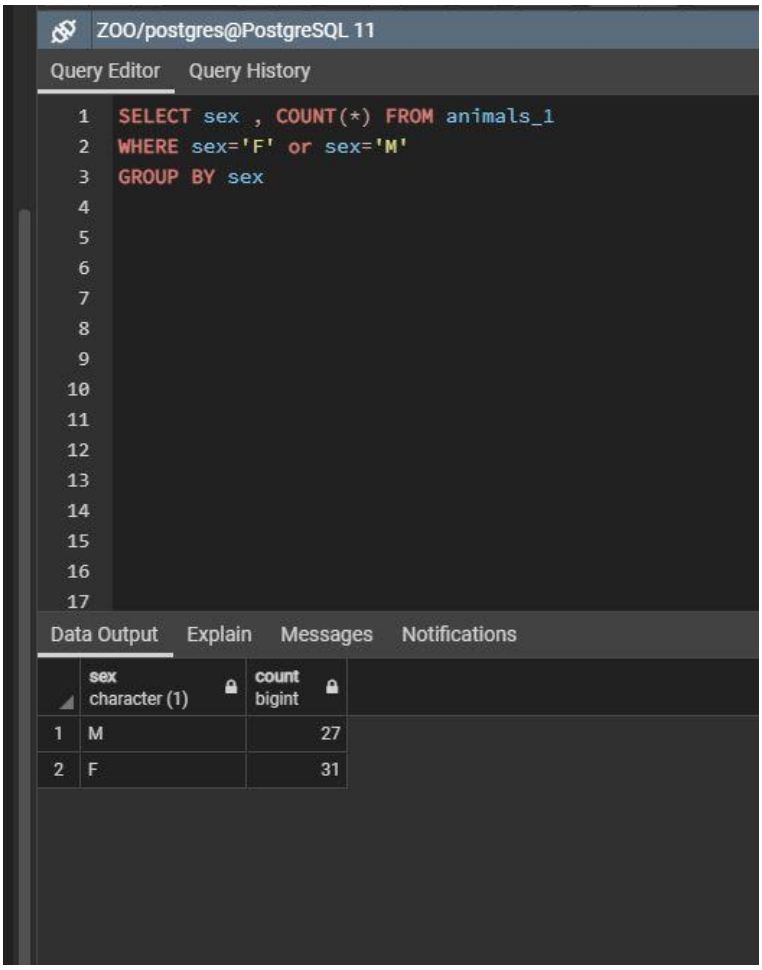
3. How many Dogs have a father? (Display the children's name and the father's name)



4. What is the average race price of each specie?



5. How many males and females exist in the animals table?



6. Give the name of 6 random males and 4 random females.

ZOO/postgres@PostgreSQL 11

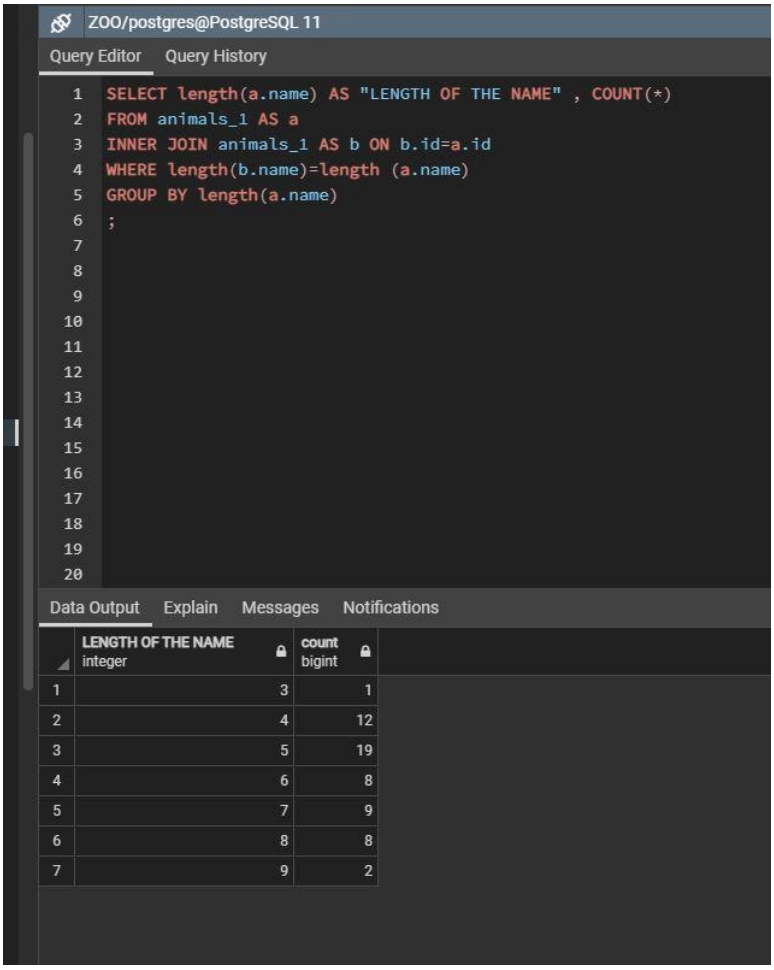
Query Editor | Query History

```
(SELECT
  name,
  sex
FROM animals_1
WHERE
sex = 'F'
ORDER BY random() LIMIT 4)

UNION

(SELECT
  name,
  sex
FROM animals_1
WHERE
sex = 'M'
ORDER BY random() LIMIT 6)
ORDER BY sex
```

Data Output | Explain | Messages | Notifications

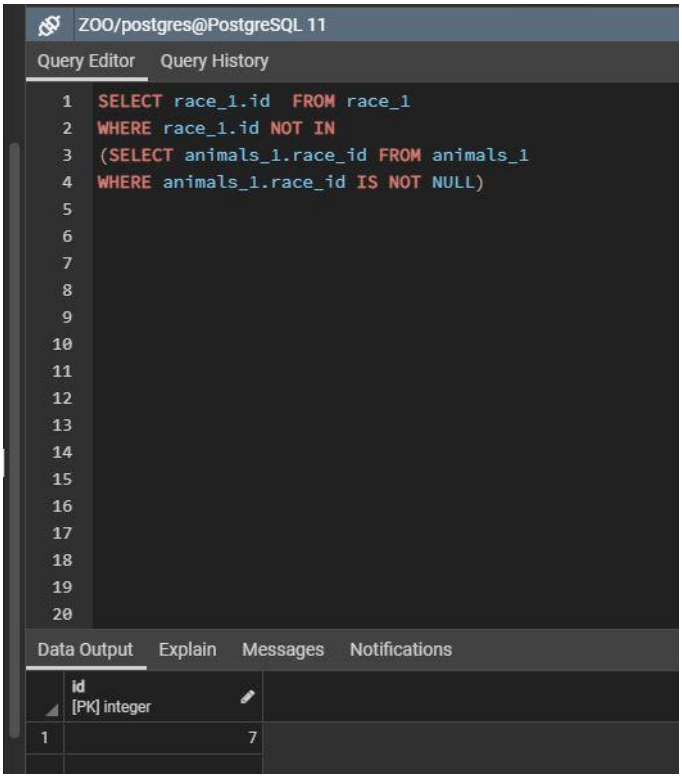
	name character varying (30)	sex character (1)
1	Bobosse	F
2	Welva	F
3	Canaille	F
4	Anya	F
5	Bagherra	M
6	Yoda	M
7	Raccou	M
8	Bubulle	M
9	Balou	M
10	Bobo	M

7. How many animals have the same name length?

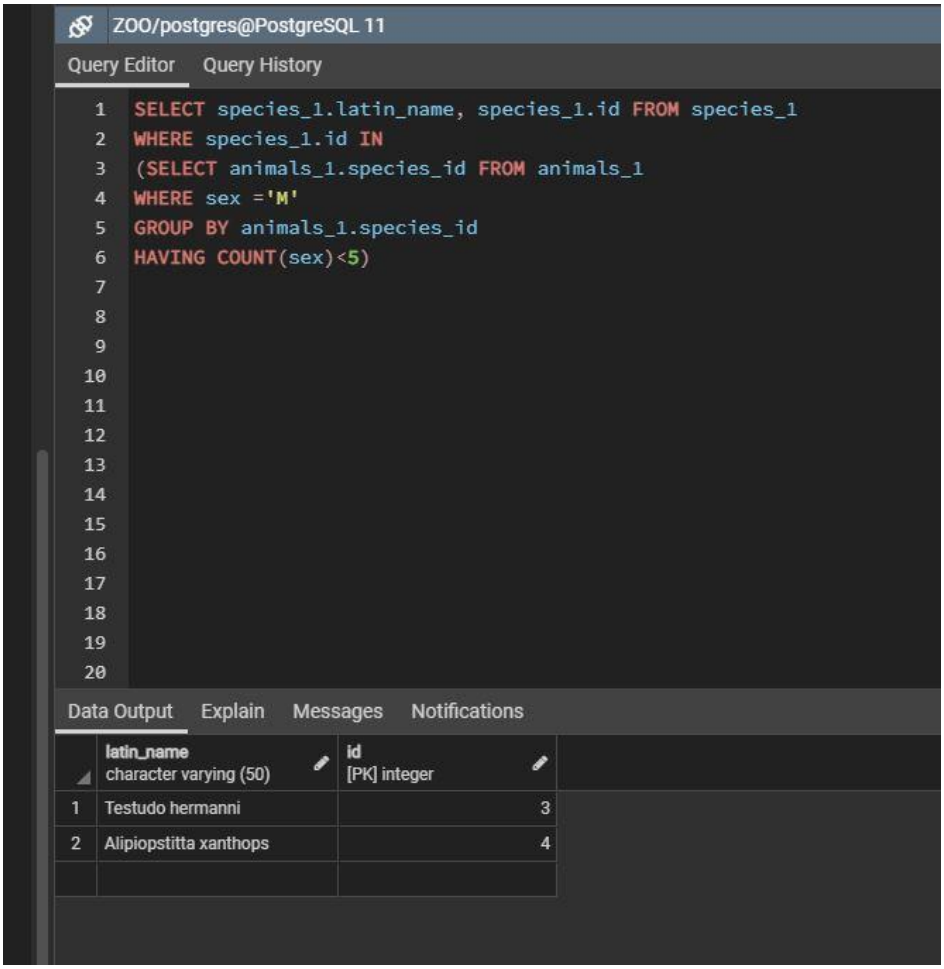


EASIER

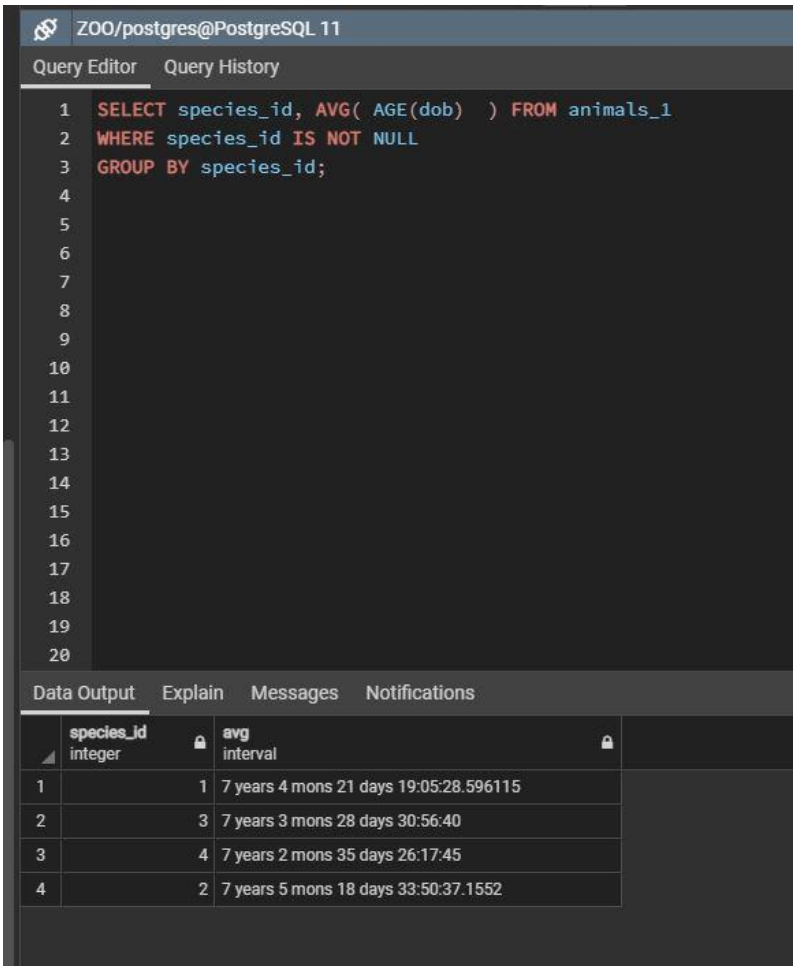
1. Whice race doesn’t have any animal attached to it?



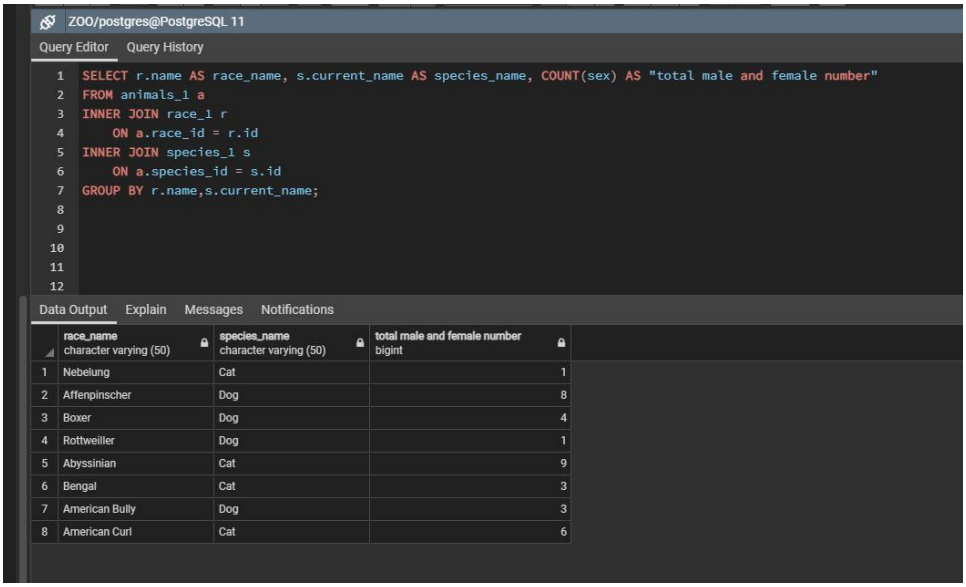
2. Which specie has less than 5 males (order by latin_name alphabetically)



3. What is the average animal age per species?



4. How many males and females of each race do we have? Do a total count for the race (male and female) and for the species. Display the race name and the current species name.



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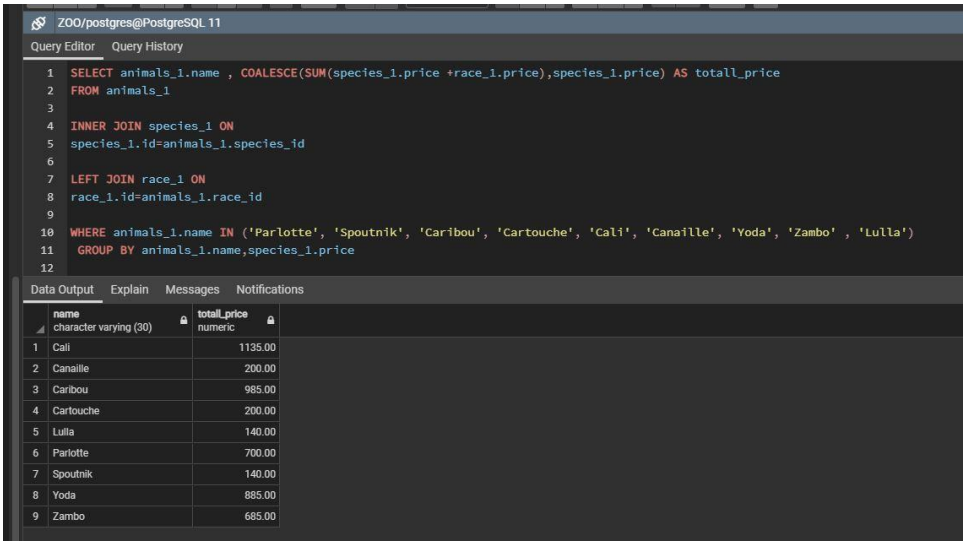
Query Editor | Query History

```
SELECT r.name AS race_name, s.current_name AS species_name, COUNT(sex) AS "total male and female number"
FROM animals_1 a
INNER JOIN race_1 r
    ON a.race_id = r.id
INNER JOIN species_1 s
    ON a.species_id = s.id
GROUP BY r.name,s.current_name;
```

Data Output | Explain | Messages | Notifications

	race_name character varying (50)	species_name character varying (50)	total male and female number bigint
1	Nebelung	Cat	1
2	Affenpinscher	Dog	8
3	Boxer	Dog	4
4	Rottweiller	Dog	1
5	Abyssinian	Cat	9
6	Bengal	Cat	3
7	American Bully	Dog	3
8	American Curl	Cat	6

5. What would be the cost per species and the total cost to adopte: Parlotte, Spoutnik, Caribou, Cartouche, Cali, Canaille, Yoda, Zambo and Lulla?



ZOO/postgres@PostgreSQL 11

Query Editor | Query History

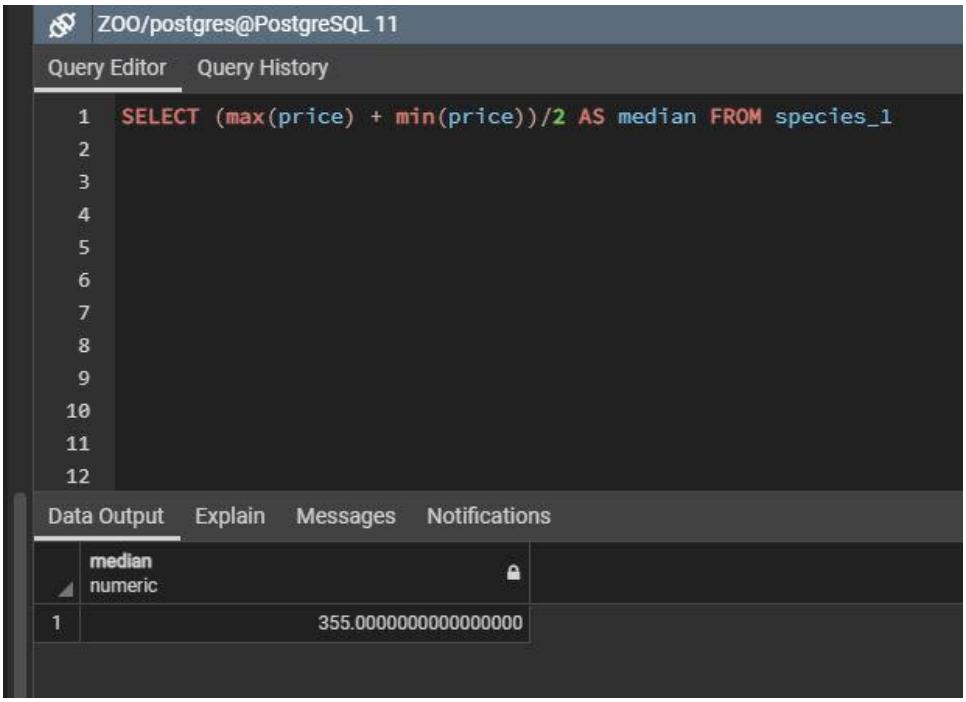
```
1  SELECT animals_1.name , COALESCE(SUM(species_1.price +race_1.price),species_1.price) AS totall_price
2  FROM animals_1
3
4  INNER JOIN species_1 ON
5  species_1.id=animals_1.species_id
6
7  LEFT JOIN race_1 ON
8  race_1.id=animals_1.race_id
9
10 WHERE animals_1.name IN ('Parlotte', 'Spoutnik', 'Caribou', 'Cartouche', 'Cali', 'Canaille', 'Yoda', 'Zambo' , 'Lulla')
11  GROUP BY animals_1.name,species_1.price
12
```

Data Output | Explain | Messages | Notifications

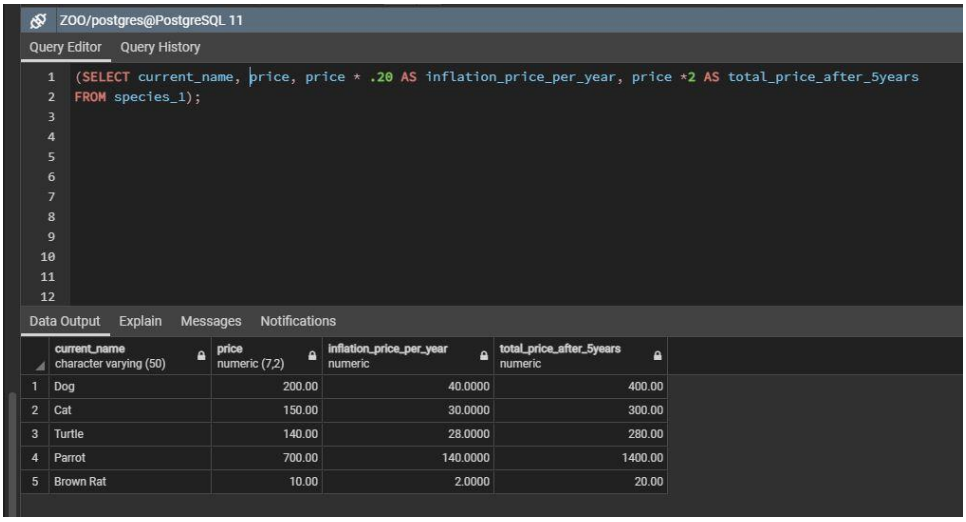
	name character varying (30)	totall_price numeric
1	Cali	1135.00
2	Canaille	200.00
3	Caribou	985.00
4	Cartouche	200.00
5	Lulla	140.00
6	Parlotte	700.00
7	Spoutnik	140.00
8	Yoda	885.00
9	Zambo	685.00

6. What's the median price of the species?

(median = (max + min)/2)



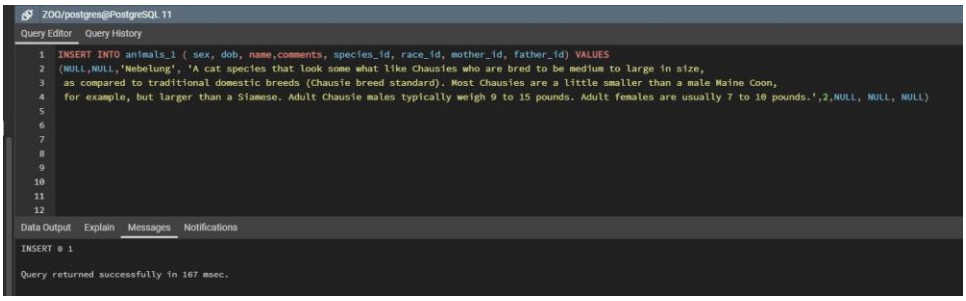
7. Assuming the inflation rises 20% more every year, show the prices of each animal for the next 5 years. (based on specie's race)



	current_name character varying (50)	price numeric (7,2)	inflation_price_per_year numeric	total_price_after_5years numeric
1	Dog	200.00	40.0000	400.00
2	Cat	150.00	30.0000	300.00
3	Turtle	140.00	28.0000	280.00
4	Parrot	700.00	140.0000	1400.00
5	Brown Rat	10.00	2.0000	20.00

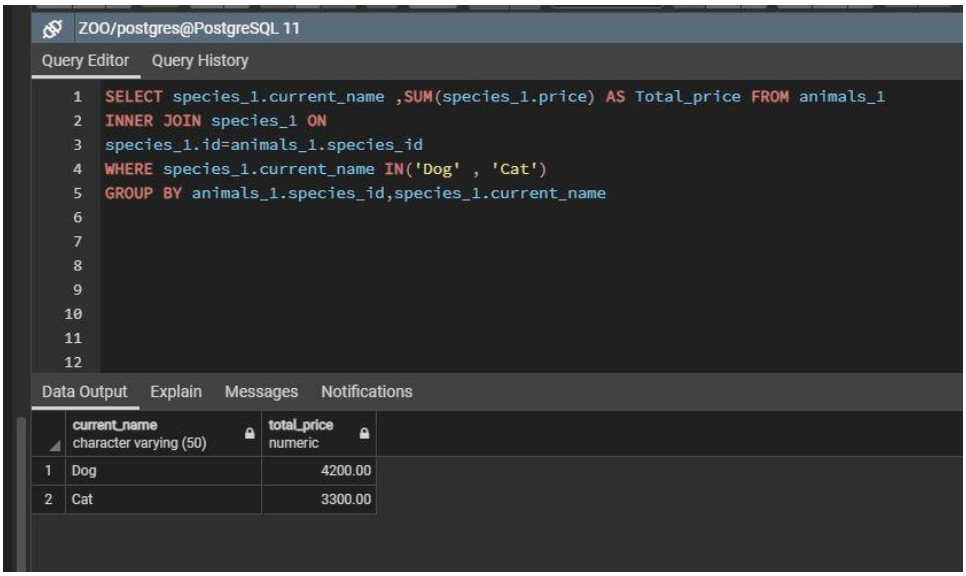
8. insert thid animal into your table:

'Nebelung', 2, 'A cat species that look some what like Chausies who are bred to be medium to large in size, as compared to traditional domestic breeds (Chausie breed standard). Most Chausies are a little smaller than a male Maine Coon, for example, but larger than a Siamese. Adult Chausie males typically weigh 9 to 15 pounds. Adult females are usually 7 to 10 pounds.'

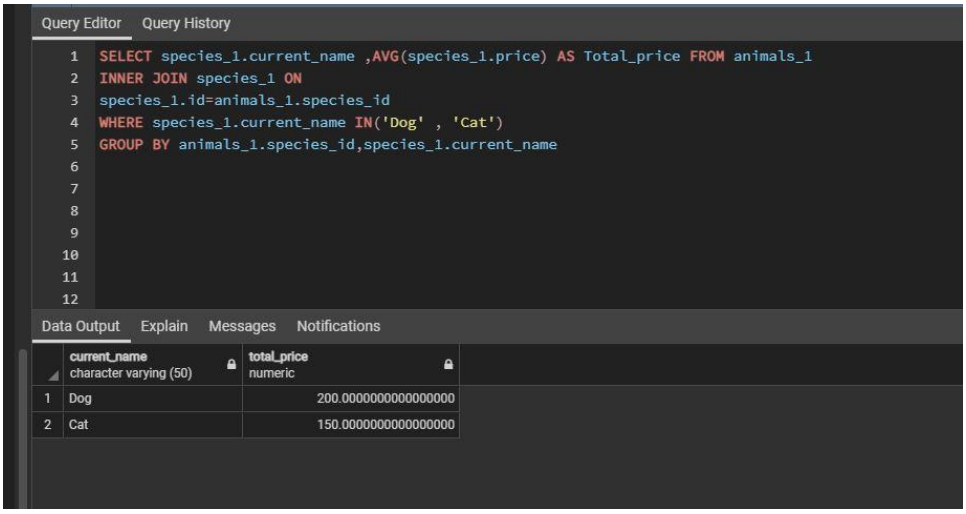


EASIEST

1. How much would it cost me to buy all the Dogs and all the Cats. Show the total per species and the overall total.



2. What is the average price of all the Dogs and the average price of all the Cats.



3. Would it cost more to buy all the males or all the females animals based on their race price?

(if the race price is null, or the animal doesn't have a race attached to it, use their specie's price)

ZOO/postgres@PostgreSQL 11

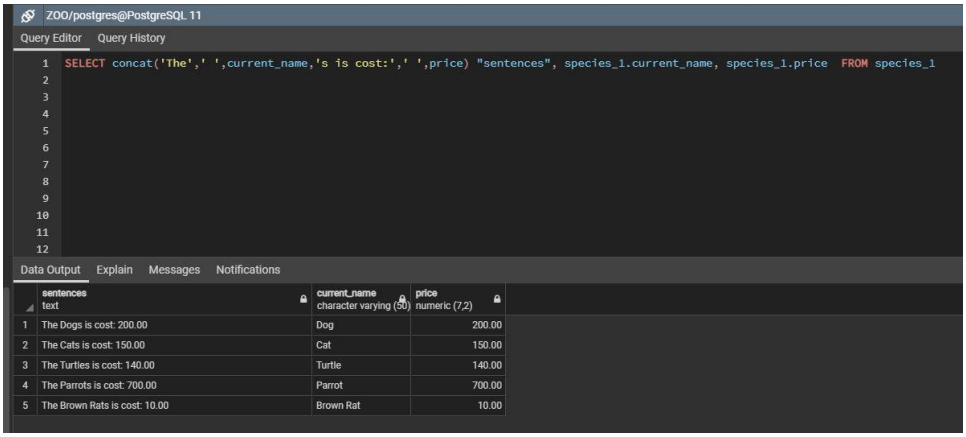
Query Editor | Query History

```
1  SELECT animals_1.sex , COALESCE(SUM(species_1.price +race_1.price)) AS totall_price
2  FROM animals_1
3
4  INNER JOIN species_1 ON
5  species_1.id=animals_1.species_id
6
7  LEFT JOIN race_1 ON
8  race_1.id=animals_1.race_id
9
10 WHERE animals_1.sex IN ('M', 'F')
11  GROUP BY animals_1.sex
12
```

Data Output | Explain | Messages | Notifications

	sex character (1)	totall_price numeric
1	M	13510.00
2	F	15910.00

4. Show a sentence giving the price of the species, for each species ex: The Dogs cost: 200$…



5. Show the cats with the letter "a" as the second letter in their name.

ZOO/postgres@PostgreSQL 11

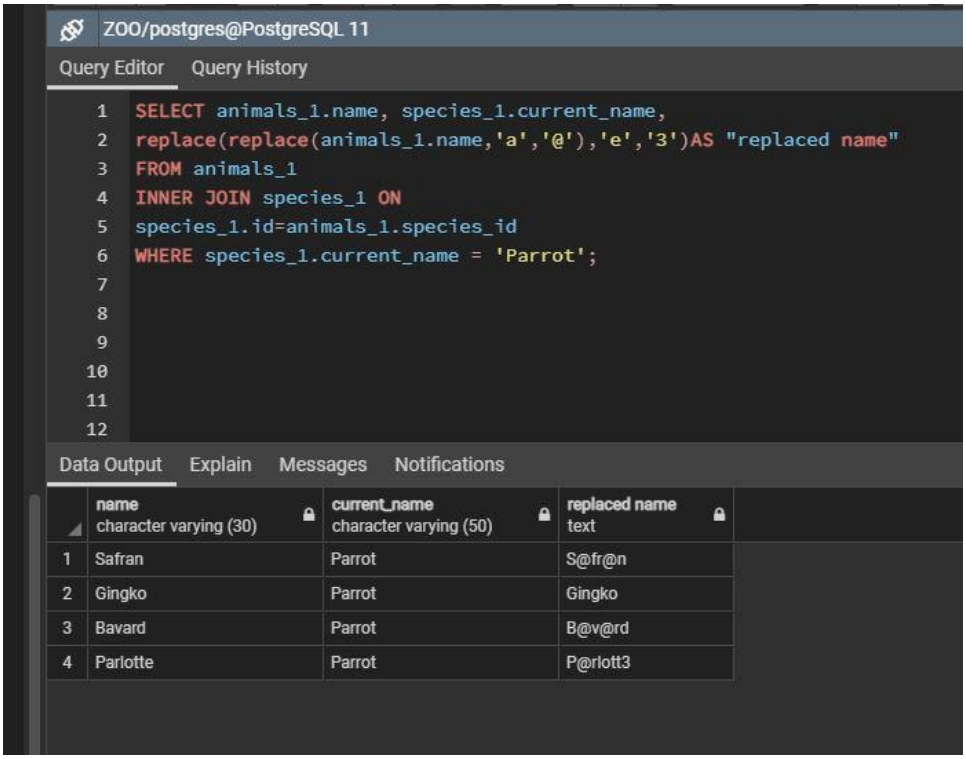
Query Editor | Query History

```
1  SELECT animals_1.name, species_1.current_name,
2  substr(animals_1.name,2,1) AS "Extracting characters"
3  FROM animals_1
4  INNER JOIN species_1 ON
5  species_1.id=animals_1.species_id
6  WHERE species_1.current_name = 'Cat'
7  AND substr(animals_1.name,2,1)='a';
8
9
10
11
12
```

Data Output | Explain | Messages | Notifications

	name character varying (30)	current_name character varying (50)	Extracting characters text
1	Bagherra	Cat	a
2	Farceur	Cat	a
3	Caribou	Cat	a
4	Capou	Cat	a
5	Raccou	Cat	a
6	Callune	Cat	a
7	Zara	Cat	a
8	Cawette	Cat	a

6. Show the names of parrots by replacing "a" with "@" and "e" with "3".



7. Show the dogs with an even number of letters in their names.

ZOO/postgres@PostgreSQL 11

Query Editor | Query History

```
1  SELECT animals_1.name, species_1.current_name,
2  char_length(animals_1.name ) AS "Length of Name"
3  FROM animals_1
4  INNER JOIN species_1 ON
5  species_1.id=animals_1.species_id
6  WHERE species_1.current_name = 'Dog'
7  AND char_length(animals_1.name ) % 2 = 0;
8
9
10
11
12
```

Data Output | Explain | Messages | Notifications

	name character varying (30)	current_name character varying (50)	Length of Name integer
1	Caroline	Dog	8
2	Bobo	Dog	4
3	Canaille	Dog	8
4	Cali	Dog	4
5	Rouquine	Dog	8
6	Fila	Dog	4
7	Anya	Dog	4
8	Zira	Dog	4
9	Java	Dog	4
10	Moka	Dog	4
11	Pipo	Dog	4

8. Show the taxes you would pay on each animals and the total price. Assuming GST = 5% and HST = 9.9975% (Round to the tens)

ex: Price: 10$ GST: 0.5$ HST: 0.99975$ Total: 11.5$

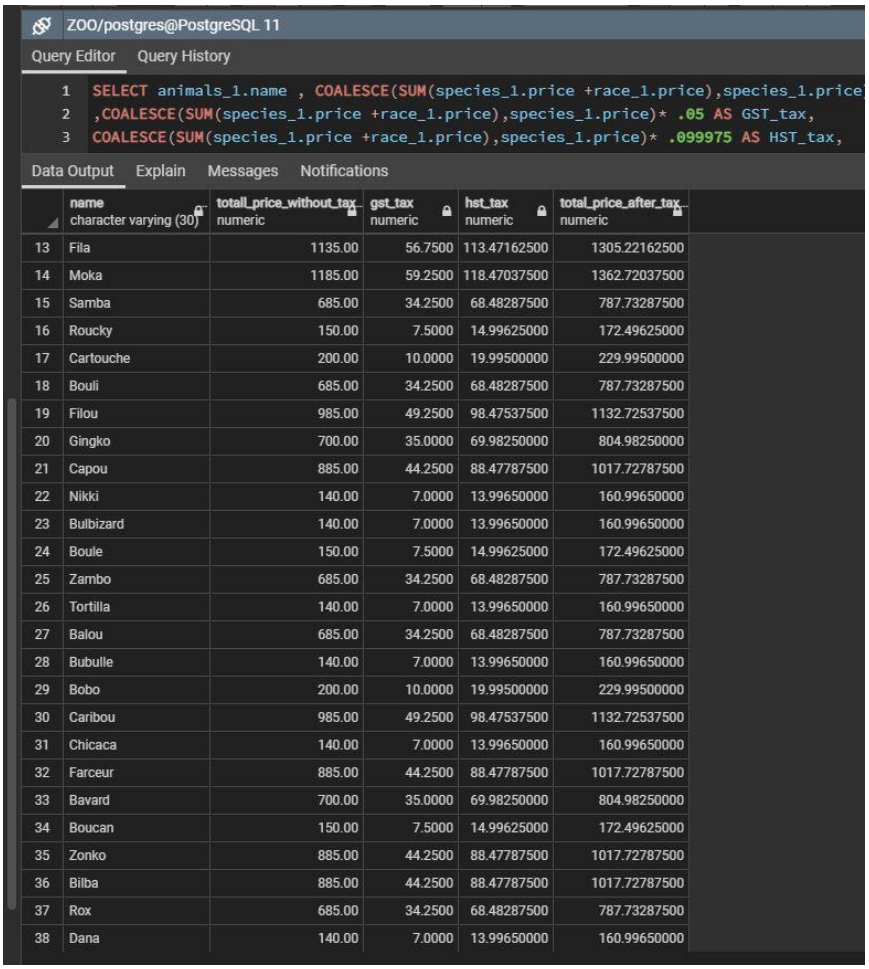
ZOO/postgres@PostgreSQL 11

Query Editor | Query History

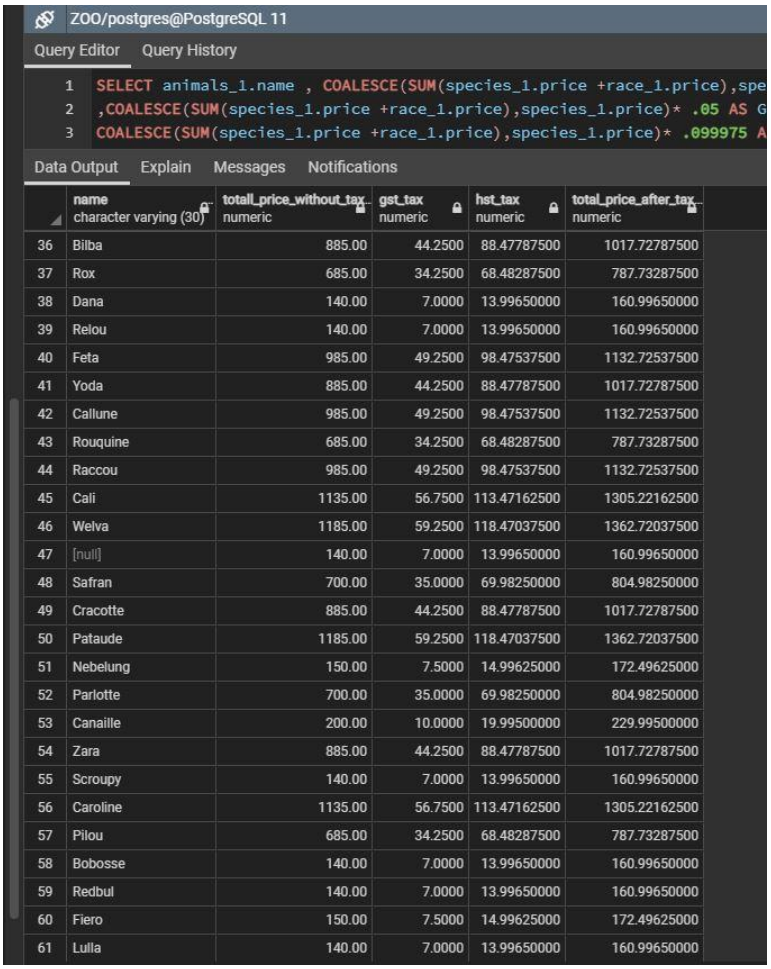
```
1  SELECT animals_1.name , COALESCE(SUM(species_1.price +race_1.price),species_1.price) AS totall_price_without_tax
2  ,COALESCE(SUM(species_1.price +race_1.price),species_1.price)* .05 AS GST_tax,
3  COALESCE(SUM(species_1.price +race_1.price),species_1.price)* .099975 AS HST_tax,
4  COALESCE(SUM(species_1.price +race_1.price),species_1.price)* (1+.05+.099975) AS Total_price_after_tax
5  FROM animals_1
6
7  INNER JOIN species_1 ON
8  species_1.id=animals_1.species_id
9
10 LEFT JOIN race_1 ON
11 race_1.id=animals_1.race_id
12
```

Data Output | Explain | Messages | Notifications

	name character varying (30)	totall_price_without_tax numeric	gst_tax numeric	hst_tax numeric	total_price_after_tax numeric
1	Cheli	140.00	7.0000	13.99650000	160.99650000
2	Cawette	1135.00	56.7500	113.47162500	1305.22162500
3	Bagherra	885.00	44.2500	88.47787500	1017.72787500
4	Louya	200.00	10.0000	19.99500000	229.99500000
5	Choupi	150.00	7.5000	14.99625000	172.49625000
6	Anya	200.00	10.0000	19.99500000	229.99500000
7	Pipo	835.00	41.7500	83.47912500	960.22912500
8	Spoutnik	140.00	7.0000	13.99650000	160.99650000
9	Java	1135.00	56.7500	113.47162500	1305.22162500
10	Zira	685.00	34.2500	68.48287500	787.73287500
11	Snory	985.00	49.2500	98.47537500	1132.72537500
12	Milla	885.00	44.2500	88.47787500	1017.72787500
13	Fila	1135.00	56.7500	113.47162500	1305.22162500
14	Moka	1185.00	59.2500	118.47037500	1362.72037500
15	Samba	685.00	34.2500	68.48287500	787.73287500
16	Roucky	150.00	7.5000	14.99625000	172.49625000
17	Cartouche	200.00	10.0000	19.99500000	229.99500000
18	Bouli	685.00	34.2500	68.48287500	787.73287500
19	Filou	985.00	49.2500	98.47537500	1132.72537500



	name character varying (30)	totall_price_without_tax numeric	gst_tax numeric	hst_tax numeric	total_price_after_tax numeric
13	Fila	1135.00	56.7500	113.47162500	1305.22162500
14	Moka	1185.00	59.2500	118.47037500	1362.72037500
15	Samba	685.00	34.2500	68.48287500	787.73287500
16	Roucky	150.00	7.5000	14.99625000	172.49625000
17	Cartouche	200.00	10.0000	19.99500000	229.99500000
18	Bouli	685.00	34.2500	68.48287500	787.73287500
19	Filou	985.00	49.2500	98.47537500	1132.72537500
20	Gingko	700.00	35.0000	69.98250000	804.98250000
21	Capou	885.00	44.2500	88.47787500	1017.72787500
22	Nikki	140.00	7.0000	13.99650000	160.99650000
23	Bulbizard	140.00	7.0000	13.99650000	160.99650000
24	Boule	150.00	7.5000	14.99625000	172.49625000
25	Zambo	685.00	34.2500	68.48287500	787.73287500
26	Tortilla	140.00	7.0000	13.99650000	160.99650000
27	Balou	685.00	34.2500	68.48287500	787.73287500
28	Bubulle	140.00	7.0000	13.99650000	160.99650000
29	Bobo	200.00	10.0000	19.99500000	229.99500000
30	Caribou	985.00	49.2500	98.47537500	1132.72537500
31	Chicaca	140.00	7.0000	13.99650000	160.99650000
32	Farceur	885.00	44.2500	88.47787500	1017.72787500
33	Bavard	700.00	35.0000	69.98250000	804.98250000
34	Boucan	150.00	7.5000	14.99625000	172.49625000
35	Zonko	885.00	44.2500	88.47787500	1017.72787500
36	Bilba	885.00	44.2500	88.47787500	1017.72787500
37	Rox	685.00	34.2500	68.48287500	787.73287500
38	Dana	140.00	7.0000	13.99650000	160.99650000



	name character varying (30)	totall_price_without_tax numeric	gst_tax numeric	hst_tax numeric	total_price_after_tax numeric
36	Bilba	885.00	44.2500	88.47787500	1017.72787500
37	Rox	685.00	34.2500	68.48287500	787.73287500
38	Dana	140.00	7.0000	13.99650000	160.99650000
39	Relou	140.00	7.0000	13.99650000	160.99650000
40	Feta	985.00	49.2500	98.47537500	1132.72537500
41	Yoda	885.00	44.2500	88.47787500	1017.72787500
42	Callune	985.00	49.2500	98.47537500	1132.72537500
43	Rouquine	685.00	34.2500	68.48287500	787.73287500
44	Raccou	985.00	49.2500	98.47537500	1132.72537500
45	Cali	1135.00	56.7500	113.47162500	1305.22162500
46	Welva	1185.00	59.2500	118.47037500	1362.72037500
47	[null]	140.00	7.0000	13.99650000	160.99650000
48	Safran	700.00	35.0000	69.98250000	804.98250000
49	Cracotte	885.00	44.2500	88.47787500	1017.72787500
50	Pataude	1185.00	59.2500	118.47037500	1362.72037500
51	Nebelung	150.00	7.5000	14.99625000	172.49625000
52	Parlotte	700.00	35.0000	69.98250000	804.98250000
53	Canaille	200.00	10.0000	19.99500000	229.99500000
54	Zara	885.00	44.2500	88.47787500	1017.72787500
55	Scroupy	140.00	7.0000	13.99650000	160.99650000
56	Caroline	1135.00	56.7500	113.47162500	1305.22162500
57	Pilou	685.00	34.2500	68.48287500	787.73287500
58	Bobosse	140.00	7.0000	13.99650000	160.99650000
59	Redbul	140.00	7.0000	13.99650000	160.99650000
60	Fiero	150.00	7.5000	14.99625000	172.49625000
61	Lulla	140.00	7.0000	13.99650000	160.99650000

9. Give a nickname to all the animals with the following criteria:

-max 10 characters

-all lower cases

-based on the reverse of their current name

-starts their id

-ends with their original name length

-padding with "@"

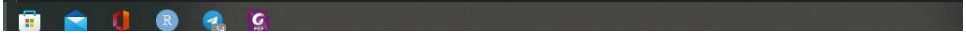
ZOO/postgres@PostgreSQL 11

Query Editor | Query History

```
1  SELECT animals_1.name , rpad(concat(id,reverse(lower(name)),length(name)),10,'@') AS Nickname FROM animals_1
2
3
```

Data Output | Explain | Messages | Notifications

	name character varying (30)	nickname text
1	Rox	1xor3@@@@@
2	Roucky	2ykcuor6@@
3	Snory	3yrons5@@@
4	[null]	4@@@@@@@@@
5	Choupi	5ipuohc6@@
6	Bobosse	6essobob7@
7	Caroline	7enilorac8
8	Bagherra	8arrehgab8
9	[null]	9@@@@@@@@@
10	Bobo	10obob4@@@
11	Canaille	11ellianac
12	Cali	12ilac4@@@
13	Rouquine	13eniuquor
14	Fila	14alif4@@@
15	Anya	15ayna4@@@
16	Louya	16ayuol5@@
17	Welva	17avlew5@@
18	Zira	18ariz4@@@
19	Java	19avaj4@@@
20	Balou	20uolab5@@
21	Pataude	21eduatap7
22	Bouli	22iluob5@@
23	Cartouche	23ehcuotra
24	Zambo	24obmaz5@@
25	Samba	25abmas5@@
26	Moka	26akom4@@@



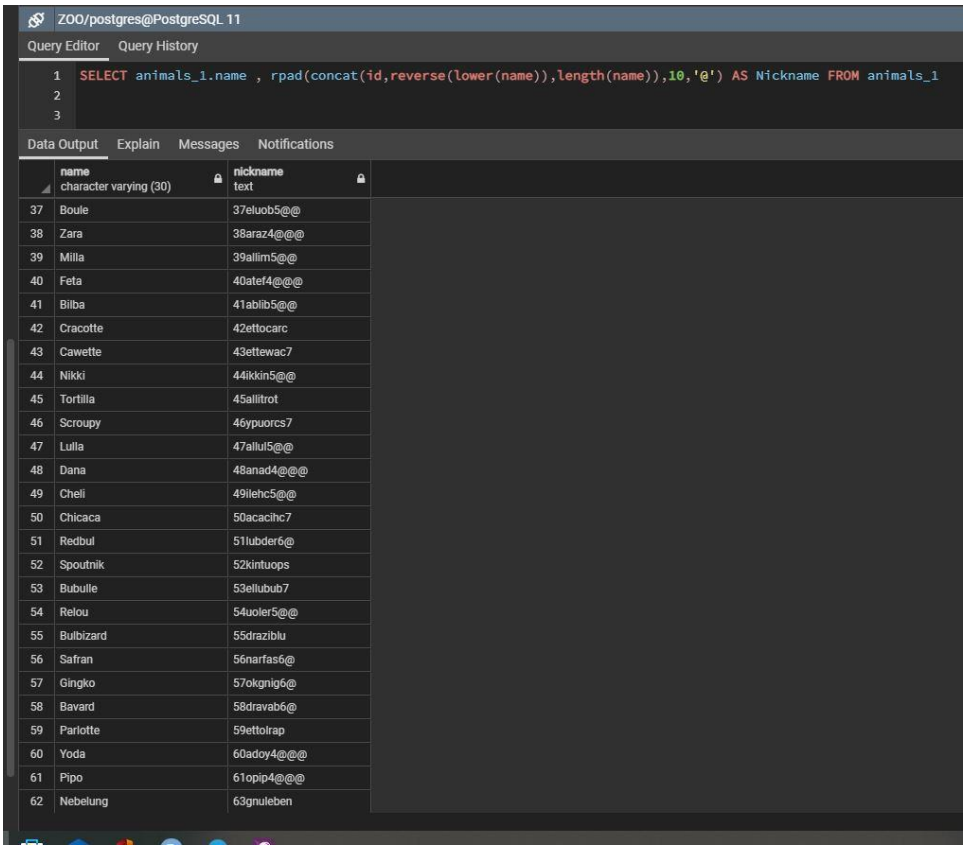
ZOO/postgres@PostgreSQL 11

Query Editor | Query History

```
1  SELECT animals_1.name , rpad(concat(id,reverse(lower(name)),length(name)),10,'@') AS Nickname FROM animals_1
2
3
```

Data Output | Explain | Messages | Notifications

	name character varying (30)	nickname text
29	Zonko	29oknoz5@@
30	Filou	30uolif5@@
31	Farceur	31ruecraf7
32	Caribou	32uobirac7
33	Capou	33uopac5@@
34	Raccou	34uoccar6@
35	Boucan	35nacuob6@
36	Callune	36enullac7
37	Boule	37eluob5@@
38	Zara	38araz4@@@
39	Milla	39allim5@@
40	Feta	40atef4@@@
41	Bilba	41ablib5@@
42	Cracotte	42ettocarc
43	Cawette	43ettewac7
44	Nikki	44ikkin5@@
45	Tortilla	45allitrot
46	Scroupy	46ypuorcs7
47	Lulla	47allul5@@
48	Dana	48anad4@@@
49	Cheli	49ilehc5@@
50	Chicaca	50acacihc7
51	Redbul	51lubder6@
52	Spoutnik	52kintuops
53	Bubulle	53ellubub7
54	Relou	54uoler5@@



	name character varying (30)	nickname text
37	Boule	37eluob5@@
38	Zara	38araz4@@@
39	Milla	39allim5@@
40	Feta	40atef4@@@
41	Bilba	41ablib5@@
42	Cracotte	42ettocarc
43	Cawette	43ettewac7
44	Nikki	44ikkin5@@
45	Tortilla	45allitrot
46	Scroupy	46ypuorcs7
47	Lulla	47allul5@@
48	Dana	48anad4@@@
49	Cheli	49ilehc5@@
50	Chicaca	50acacihc7
51	Redbul	51lubder6@
52	Spoutnik	52kintuops
53	Bubulle	53ellubub7
54	Relou	54uoler5@@
55	Bulbizard	55draziblu
56	Safran	56narfas6@
57	Gingko	57okgnig6@
58	Bavard	58dravab6@
59	Parlotte	59ettolrap
60	Yoda	60adoy4@@@
61	Pipo	61opip4@@@
62	Nebelung	63gnuleben