



Title

Student(s)	Shabnam Rezaei
Student Number	5298191
Course	Database Concepts and Applications
Session	
Teacher	
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PREPARED STATEMENTS

Create the following prepared statements and execute them in order to test them. Remember the prepared statements are not saved, so please save them in a file for lab correction.

1. Show all the animals (id, name, sex)

PREPARE statement1 FROM 'SELECT id,name,sex FROM animal';

EXECUTE statement1;

```
mysql> EXECUTE statement1;
```

id	name	sex
1	Rox	M
2	Roucky	NULL
3	Snory	F
4	NULL	F
5	Choupi	NULL
6	Bobosse	F
7	Caroline	F
8	Bagherra	M
9	NULL	NULL
10	Bobo	M
11	Canaille	F
12	Cali	F
13	Rouquine	F
14	Fila	F
15	Anya	F
16	Louya	F
17	Welva	F
18	Zira	F
19	Java	F
20	Balou	M
21	Pataude	F
22	Bouli	M
24	Cartouche	M
25	Zambo	M
26	Samba	M
27	Moka	M
28	Pilou	M
29	Fiero	M
30	Zonko	M
31	Filou	M
32	Farceur	M
33	Caribou	M
34	Capou	M
35	Raccou	M
36	Boucan	M
37	Callune	F
38	Boule	F
39	Zara	F
40	Milla	F
41	Feta	F
42	Bilba	F
43	Cracotte	F
44	Cawette	F
45	Nikki	F
46	Tortilla	F
47	Scroupy	F
48	Lulla	F
49	Dana	F
50	Cheli	F
51	Chicaca	F
52	Redbul	F
53	Spoutnik	M
54	Bubulle	M
55	Relou	M
56	Bulbizard	M
57	Safran	M
58	Gingko	M
59	Bavard	M

2. Show all the animals by ? race_id (id, name, sex, dob, race_name)

```
PREPARE statement2 FROM
```

```
'SELECT animal.id,animal.name,sex,dob,race.name,race_id FROM animal
```

```
INNER JOIN race ON race.id=animal.race_id WHERE race_id=?';
```

```
SET @a = 1;
```

```
SET @b=2;
```

```
SET @c=3;
```

```
SET @d=4;
```

```
SET @e=5;
```

```
SET @f=6;
```

```
SET @g=7;
```

```
SET @h=8;
```

```
SET @i=9;
```

```
EXECUTE statement2 USING @a;
```

```
EXECUTE statement2 USING @b;
```

```
EXECUTE statement2 USING @c;
```

```
EXECUTE statement2 USING @d;
```

```
EXECUTE statement2 USING @e;
```

```
EXECUTE statement2 USING @f;
```

```
EXECUTE statement2 USING @g;
```

```
EXECUTE statement2 USING @h;
```

```
EXECUTE statement2 USING @i;
```

```
mysql> EXECUTE statement2 USING @a;
```

id	name	sex	dob	name	race_id
1	Rox	M	2010-04-05 13:43:00	Affenpinscher	1
13	Rouquine	F	2007-04-24 12:54:00	Affenpinscher	1
18	Zira	F	2007-04-24 12:59:00	Affenpinscher	1
20	Balou	M	2007-04-24 12:45:00	Affenpinscher	1
22	Bouli	M	2007-04-24 12:42:00	Affenpinscher	1
25	Zambo	M	2006-05-14 15:50:00	Affenpinscher	1
26	Samba	M	2006-05-14 15:48:00	Affenpinscher	1
28	Pilou	M	2006-05-14 15:40:00	Affenpinscher	1
65	Den	M	2013-07-23 09:00:00	Affenpinscher	1

9 rows in set (0.00 sec)

```
mysql> EXECUTE statement2 USING @b;
```

id	name	sex	dob	name	race_id
7	Caroline	F	2008-12-06 05:18:00	Boxer	2
12	Calli	F	2009-05-26 08:54:00	Boxer	2
14	Fila	F	2009-05-26 08:56:00	Boxer	2
19	Java	F	2009-05-26 09:02:00	Boxer	2

4 rows in set (0.00 sec)

```
mysql> EXECUTE statement2 USING @c;
```

id	name	sex	dob	name	race_id
17	Welva	F	2008-03-10 13:45:00	American Bully	3
21	Pataude	F	2008-03-10 13:43:00	American Bully	3
27	Moka	M	2008-03-10 13:40:00	American Bully	3

3 rows in set (0.00 sec)

```
mysql> EXECUTE statement2 USING @d;
```

id	name	sex	dob	name	race_id
3	Snory	F	2010-09-13 15:02:00	American Curl	4
31	Filou	M	2008-02-20 15:45:00	American Curl	4
33	Caribou	M	2006-05-19 16:17:00	American Curl	4
35	Raccou	M	2006-05-19 16:56:00	American Curl	4
37	Callune	F	2006-05-19 16:06:00	American Curl	4
41	Feta	F	2006-05-19 15:59:00	American Curl	4

6 rows in set (0.00 sec)

```
mysql> EXECUTE statement2 USING @e;
```

id	name	sex	dob	name	race_id
8	Bagherra	M	2008-09-11 15:38:00	Abyssinian	5
30	Zonko	M	2007-03-12 12:05:00	Abyssinian	5
32	Farceur	M	2007-03-12 12:07:00	Abyssinian	5
34	Capou	M	2008-04-20 03:22:00	Abyssinian	5
39	Zara	F	2008-04-20 03:26:00	Abyssinian	5
40	Hilla	F	2007-03-12 12:00:00	Abyssinian	5
42	Bilba	F	2008-04-20 03:20:00	Abyssinian	5
43	Cracotte	F	2007-03-12 11:54:00	Abyssinian	5

id	name	sex	dob	name	race_id
37	Callune	F	2006-05-19 16:06:00	American Curl	4
41	Feta	F	2006-05-19 15:59:00	American Curl	4

6 rows in set (0.00 sec)

```
mysql> EXECUTE statement2 USING @e;
```

id	name	sex	dob	name	race_id
8	Bagherra	M	2008-09-11 15:38:00	Abyssinian	5
30	Zonko	M	2007-03-12 12:05:00	Abyssinian	5
32	Farceur	M	2007-03-12 12:07:00	Abyssinian	5
34	Capou	M	2008-04-20 03:22:00	Abyssinian	5
39	Zara	F	2008-04-20 03:26:00	Abyssinian	5
40	Milla	F	2007-03-12 12:00:00	Abyssinian	5
42	Bilba	F	2008-04-20 03:20:00	Abyssinian	5
43	Cracotte	F	2007-03-12 11:54:00	Abyssinian	5
61	Yoda	M	2010-11-09 00:00:00	Abyssinian	5

9 rows in set (0.00 sec)

```
mysql> EXECUTE statement2 USING @f;
```

id	name	sex	dob	name	race_id
29	Fiero	M	2009-05-14 06:30:00	Bengal	6
36	Boucan	M	2009-05-14 06:42:00	Bengal	6
38	Boule	F	2009-05-14 06:45:00	Bengal	6

3 rows in set (0.00 sec)

```
mysql> EXECUTE statement2 USING @g;
```

Empty set (0.00 sec)

```
mysql> EXECUTE statement2 USING @h;
```

id	name	sex	dob	name	race_id
44	Cawette	F	2006-05-19 16:16:00	Nebelung	8
63	Mushu	M	2008-03-05 08:28:00	Nebelung	8

2 rows in set (0.00 sec)

```
mysql> EXECUTE statement2 USING @i;
```

```
mysql> EXECUTE statement2 USING @i;
```

id	name	sex	dob	name	race_id
62	Pipo	M	2010-11-05 00:00:00	Rottweiler	9

1 row in set (0.00 sec)

3. Show all the animals by ? race_id and ? species_id (id, name, sex, race_name, species_name)

PREPARE statement3 FROM

**'SELECT
animal.id,animal.name,sex,race.name,animal.race_id,animal.species_id,species.current_name FROM
animal**

INNER JOIN race ON race.id=animal.race_id

INNER JOIN species ON species.id=animal.species_id

WHERE animal.race_id=? AND animal.species_id=?';

SET @race_id = 2;

SET @species_id = 1;

EXECUTE statement3 USING @race_id, @species_id;

```
mysql> PREPARE statement3 FROM
-> 'SELECT animal.id,animal.name,sex,race.name,animal.race_id,animal.species_id,species.current_name FROM animal
'> INNER JOIN race ON race.id=animal.race_id
'> INNER JOIN species ON species.id=animal.species_id
'> WHERE animal.race_id=? AND animal.species_id=?';
Query OK, 0 rows affected (0.00 sec)
Statement prepared

mysql> SET @race_id = 2;
Query OK, 0 rows affected (0.00 sec)

mysql> SET @species_id = 1;
Query OK, 0 rows affected (0.00 sec)

mysql> EXECUTE statement3 USING @race_id, @species_id;
+-----+-----+-----+-----+-----+-----+-----+
| id | name | sex | name | race_id | species_id | current_name |
+-----+-----+-----+-----+-----+-----+-----+
| 7 | Caroline | F | Boxer | 2 | 1 | Dog |
| 12 | Cali | F | Boxer | 2 | 1 | Dog |
| 14 | Fila | F | Boxer | 2 | 1 | Dog |
| 19 | Java | F | Boxer | 2 | 1 | Dog |
+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.02 sec)
```

4. Which specie has less than ? males and ? females (id, name, sex, race_name, species_name)

where ? is a number of animals

PREPARE statement5 FROM

'SELECT sex,animal.species_id ,COUNT(sex) FROM animal

INNER JOIN species ON species.id=animal.species_id

WHERE animal.sex ='M'

GROUP BY sex,animal.species_id

HAVING COUNT(sex) < ?

UNION

SELECT sex,animal.species_id ,COUNT(sex) FROM animal

INNER JOIN species ON species.id=animal.species_id

WHERE animal.sex ='F'

GROUP BY sex,animal.species_id

HAVING COUNT(sex) < ? ' ;

SET @m_s = 8;

SET @f_s= 10;

EXECUTE statement5 USING @m_s, @f_s;

sex	species_id	COUNT(sex)
M	3	4
M	4	3
F	4	1

3 rows in set (0.02 sec)

5. Assuming the inflation rises 20% more every year, show the prices of ? animals for the ? year based on specie's race (id, name, sex, race_name, species_name)

where first argument is the number of animals to show and the second argument is the year number

```
SET @inflation ='SELECT a.id, a.name, a.sex, r.name, s.current_name, r.price AS 'base price', r.price *  
ROUND(POWER(1.2, ? - YEAR(a.dob)),2) AS 'Inflation' FROM animal a
```

```
INNER JOIN race r ON a.race_id = r.id
```

```
INNER JOIN species s ON a.species_id = s.id
```

```
ORDER BY a.id
```

```
LIMIT ?';
```

```
PREPARE ps_inflation
```

```
FROM @inflation;
```

```
SET @select_num_animals = 5;
```

```
SET @select_year = 2013;
```

```
EXECUTE ps_inflation USING @select_year, @select_num_animals;
```

```
mysql> EXECUTE ps_inflation USING @select_year, @select_num_animals;
```

id	name	sex	name	current_name	base price	Inflation
1	Rox	M	Affenpinscher	Dog	485.00	839.05
3	Snory	F	American Curl	Cat	835.00	1444.55
7	Caroline	F	Boxer	Dog	935.00	2328.15
8	Bagherra	M	Abyssinian	Cat	735.00	1830.15
12	Cali	F	Boxer	Dog	935.00	1935.45

```
5 rows in set (0.01 sec)
```