1. Provide a SQL script that initializes the database for the Pet Adoption Platform ”PetPals”.

mysql> create database petpals;

Query OK, 1 row affected (0.01 sec)

mysql> use petpals;

Database changed

2. Create tables for pets, shelters, donations, adoption events, and participants.

3. Define appropriate primary keys, foreign keys, and constraints.

4. Ensure the script handles potential errors, such as if the database or tables already exist.

mysql> create table pets(petid int primary key, name varchar(20), age int, breed varchar(20), type varchar(20), availforadap bit);

Query OK, 0 rows affected (0.17 sec)

mysql> create table shelters(shelterid int primary key, name varchar(50), location varchar(100));

Query OK, 0 rows affected (0.09 sec)

mysql> create table donations(donationid int primary key, donorname varchar(20), donationtype varchar(20), donationamount int, donationitem varchar(20), donationdate date);

Query OK, 0 rows affected (0.06 sec)

mysql> create table adoptionevents(eventid int primary key, eventname varchar(50), eventdate date, location varchar(100));

Query OK, 0 rows affected (0.04 sec)

mysql> create table participants(participantid int primary key, participantname varchar(20), participanttype varchar(20), eventid int, foreign key (eventid) references adoptionevents(eventid));

Query OK, 0 rows affected (0.08 sec)

mysql> insert into pets (petid, name, age, breed, type, availforadap) values (1, 'Buddy', 3, 'Labrador', 'Dog', 1), (2, 'Whiskers', 5, 'Persian', 'Cat', 1), (3, 'Rocky', 2, 'German Shepherd', 'Dog', 0), (4, 'Mittens', 4, 'Siamese', 'Cat', 1), (5, 'Max', 1, 'Golden Retriever', 'Dog', 1);

Query OK, 5 rows affected (0.05 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql> insert into shelters (shelterid, name, location) values (1, 'Paws and Claws Shelter', '123 Main Street, Anytown, USA'), (2, 'Furry Friends Rescue', '456 Elm Street, Othertown, USA');

Query OK, 2 rows affected (0.01 sec)

Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into donations (donationid, donorname, donationtype, donationamount, donationitem, donationdate) values (1, 'John Smith', 'Money', 100, NULL, '2024-04-01'), (2, 'Jane Doe', 'Supplies', NULL, 'Blankets', '2024-04-05'), (3, 'Alice Johnson', 'Money', 50, NULL, '2024-04-10');

Query OK, 3 rows affected (0.05 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> insert into adoptionevents (eventid, eventname, eventdate, location) values (1, 'Furry Friends Adoption Day', '2024-05-15', 'City Park, Anytown, USA'), (2, 'Paws and Claws Mega Adoption Event', '2024-06-01', 'Convention Center, Othertown, USA');

Query OK, 2 rows affected (0.02 sec)

Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into participants (participantid, participantname, participanttype, eventid) values (1, 'Samantha Brown', 'Visitor', 1), (2, 'Michael Johnson', 'Volunteer', 1), (3, 'Emily White', 'Staff', 1), (4, 'David Green', 'Visitor', 2), (5, 'Jessica Lee', 'Volunteer', 2), (6, 'Daniel Evans', 'Staff', 2);

Query OK, 6 rows affected (0.03 sec)

Records: 6 Duplicates: 0 Warnings: 0

5. Write an SQL query that retrieves a list of available pets (those marked as available for adoption) from the "Pets" table. Include the pet's name, age, breed, and type in the result set. Ensure that

the query filters out pets that are not available for adoption.

mysql> select name, age, breed, type from pets where availforadap = 1;

+----------+------+------------------+------+

| name | age | breed | type |

+----------+------+------------------+------+

| Buddy | 3 | Labrador | Dog |

| Whiskers | 5 | Persian | Cat |

| Mittens | 4 | Siamese | Cat |

| Max | 1 | Golden Retriever | Dog |

+----------+------+------------------+------+

4 rows in set (0.02 sec)

6. Write an SQL query that retrieves the names of participants (shelters and adopters) registered for a specific adoption event. Use a parameter to specify the event ID. Ensure that the query

joins the necessary tables to retrieve the participant names and types.

mysql> select participantname, participanttype from participants p left join shelters s on p.participantid = s.shelterid left join pets pp on p.participantid = pp.petid where eventid = 1;

+-----------------+-----------------+

| participantname | participanttype |

+-----------------+-----------------+

| Samantha Brown | Visitor |

| Michael Johnson | Volunteer |

| Emily White | Staff |

+-----------------+-----------------+

3 rows in set (0.01 sec)

7. Create a stored procedure in SQL that allows a shelter to update its information (name and location) in the "Shelters" table. Use parameters to pass the shelter ID and the new information. Ensure that the procedure performs the update and handles potential errors, such as an invalid shelter ID.

Skipped

8. Write an SQL query that calculates and retrieves the total donation amount for each shelter (by

shelter name) from the "Donations" table. The result should include the shelter name and the

total donation amount. Ensure that the query handles cases where a shelter has received no donations.

mysql> select name, sum(donationamount) from shelters s left join donations d on s.shelterid = d.donationid group by s.name;

+------------------------+---------------------+

| name | sum(donationamount) |

+------------------------+---------------------+

| Paws and Claws Shelter | 100 |

| Furry Friends Rescue | NULL |

+------------------------+---------------------+

2 rows in set (0.03 sec)

9. Write an SQL query that retrieves the names of pets from the "Pets" table that do not have an owner (i.e., where "OwnerID" is null). Include the pet's name, age, breed, and type in the result set.

Skipped

10. Write an SQL query that retrieves the total donation amount for each month and year (e.g., January 2023) from the "Donations" table. The result should include the month-year and the corresponding total donation amount. Ensure that the query handles cases where no donations were made in a specific month-year.

mysql> select donationdate, sum(donationamount) from donations group by

donationdate order by donationdate;

+--------------+---------------------+

| donationdate | sum(donationamount) |

+--------------+---------------------+

| 2024-04-01 | 100 |

| 2024-04-05 | NULL |

| 2024-04-10 | 50 |

+--------------+---------------------+

3 rows in set (0.00 sec)

11. Retrieve a list of distinct breeds for all pets that are either aged between 1 and 3 years or older than 5 years.

mysql> select breed from pets where (age between 1 and 3) or (age >5);

+------------------+

| breed |

+------------------+

| Labrador |

| German Shepherd |

| Golden Retriever |

+------------------+

3 rows in set (0.02 sec)

12. Retrieve a list of pets and their respective shelters where the pets are currently available for adoption.

mysql> select p.name, s.name from pets p join shelters s on p.petid = s.

shelterid where p.availforadap = 1;

+----------+------------------------+

| name | name |

+----------+------------------------+

| Buddy | Paws and Claws Shelter |

| Whiskers | Furry Friends Rescue |

+----------+------------------------+

2 rows in set (0.00 sec)

13. Find the total number of participants in events organized by shelters located in specific city. Example: City=Chennai

mysql> select count(participantid) from participants p join adoptioneven

ts a on p.eventid=a.eventid where location = "%USA%";

+----------------------+

| count(participantid) |

+----------------------+

| 0 |

+----------------------+

1 row in set (0.01 sec)

14. Retrieve a list of unique breeds for pets with ages between 1 and 5 years.

mysql> select breed from pets where age between 1 and 5;

+------------------+

| breed |

+------------------+

| Labrador |

| Persian |

| German Shepherd |

| Siamese |

| Golden Retriever |

+------------------+

5 rows in set (0.01 sec)

15. Find the pets that have not been adopted by selecting their information from the 'Pet' table.

mysql> select \* from pets where availforadap = 0;

+-------+-------+------+-----------------+------+----------------------------+

| petid | name | age | breed | type | availforadap

|

+-------+-------+------+-----------------+------+----------------------------+

| 3 | Rocky | 2 | German Shepherd | Dog | 0x00

|

+-------+-------+------+-----------------+------+----------------------------+

1 row in set (0.00 sec)

16. Retrieve the names of all adopted pets along with the adopter's name from the 'Adoption' and 'User' tables.

mysql> select \* from pets where availforadap = 0;

+-------+-------+------+-----------------+------+----------------------------+

| petid | name | age | breed | type | availforadap

|

+-------+-------+------+-----------------+------+----------------------------+

| 3 | Rocky | 2 | German Shepherd | Dog | 0x00

|

+-------+-------+------+-----------------+------+----------------------------+

1 row in set (0.01 sec)

17. Retrieve a list of all shelters along with the count of pets currently available for adoption in each shelter.

mysql> select s.shelterid, s.name, count(p.petid) from shelters s left join pets p on s.shelterid = p.petid where p.availforadap = 1 or p.availforadap is null group by s.shelterid, s.name;

+-----------+------------------------+----------------+

| shelterid | name | count(p.petid) |

+-----------+------------------------+----------------+

| 1 | Paws and Claws Shelter | 1 |

| 2 | Furry Friends Rescue | 1 |

+-----------+------------------------+----------------+

2 rows in set (0.00 sec)

18. Find pairs of pets from the same shelter that have the same breed.

mysql> select p.petid, p.name, p.breed, p1.petid, p1.name from pets p join pets p1 on p.petid = p1.petid left join shelters s on p.petid = s.she

lterid and p.breed = p1.breed and p.petid<p1.petid;

+-------+----------+------------------+-------+----------+

| petid | name | breed | petid | name |

+-------+----------+------------------+-------+----------+

| 1 | Buddy | Labrador | 1 | Buddy |

| 2 | Whiskers | Persian | 2 | Whiskers |

| 3 | Rocky | German Shepherd | 3 | Rocky |

| 4 | Mittens | Siamese | 4 | Mittens |

| 5 | Max | Golden Retriever | 5 | Max |

+-------+----------+------------------+-------+----------+

5 rows in set (0.01 sec)

19. List all possible combinations of shelters and adoption events.

mysql> select \* from shelters cross join adoptionevents;

+-----------+------------------------+--------------------------------+---------+------------------------------------+------------+-----------------------------------+

| shelterid | name | location | eventid | eventname | eventdate | location |

+-----------+------------------------+--------------------------------+---------+------------------------------------+------------+-----------------------------------+

| 2 | Furry Friends Rescue | 456 Elm Street, Othertown, USA | 1 | Furry Friends Adoption Day | 2024-05-15 | City Park, Anytown, USA |

| 1 | Paws and Claws Shelter | 123 Main Street, Anytown, USA | 1 | Furry Friends Adoption Day | 2024-05-15 | City Park, Anytown, USA |

| 2 | Furry Friends Rescue | 456 Elm Street, Othertown, USA | 2 | Paws and Claws Mega Adoption Event | 2024-06-01 | Convention Center, Othertown, USA |

| 1 | Paws and Claws Shelter | 123 Main Street, Anytown, USA | 2 | Paws and Claws Mega Adoption Event | 2024-06-01 | Convention Center, Othertown, USA |

+-----------+------------------------+--------------------------------+---------+------------------------------------+------------+-----------------------------------+

4 rows in set (0.01 sec)

20. Determine the shelter that has the highest number of adopted pets.

mysql> select s.shelterid, s.name, count(\*) as adopcount from ( select shelterid, name, count(\*) from shelters s join pets p on s.shelterid = p.petid where p.availforadap = 0 group by s.name) order by adopcount;