

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

Create database petpals;

```
mysql> create database petpals;
Query OK, 1 row affected (0.01 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| carrent  |
| haxadb   |
| information_schema |
| mysql    |
| performance_schema |
| petpals  |
| sys      |
| techshop |
+-----+
8 rows in set (0.00 sec)
```

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

Create table Pets(
PetID INT PRIMARY KEY,
Name VARCHAR(200),
Age INT,
Breed VARCHAR(200),
Type VARCHAR(200),
AvaliableForAdoption Boolean
);

```
mysql> Create table Pets(  
-> PetID INT PRIMARY KEY,  
-> Name VARCHAR(200),  
-> Age INT,  
-> Breed VARCHAR(200),  
-> Type VARCHAR(200),  
-> AvaliableForAdoption Boolean  
-> );  
Query OK, 0 rows affected (0.03 sec)
```

```
Create table Shelters(  
ShelterID INT PRIMARY KEY,  
Name VARCHAR(200),  
Location VARCHAR(200)  
);
```

```
mysql> Create table Shelters(  
-> ShelterID INT PRIMARY KEY,  
-> Name VARCHAR(200),  
-> Location VARCHAR(200)  
-> );  
Query OK, 0 rows affected (0.01 sec)
```

```
Create table Donations(  
DonationID INT PRIMARY KEY,  
DonorName VARCHAR(200),  
DonationType VARCHAR(200),  
DonationAmount DECIMAL(10,2),  
DonationItem VARCHAR(200),  
DonationDate DateTime  
);
```

```
mysql> Create table Donations(  
    -> DonationID INT PRIMARY KEY,  
    -> DonorName VARCHAR(200),  
    -> DonationType VARCHAR(200),  
    -> DonationAmount DECIMAL(10,2),  
    -> DonationItem VARCHAR(200),  
    -> DonationDate DateTime  
    -> );  
Query OK, 0 rows affected (0.02 sec)
```

```
Create Table AdoptionEvents(  
EventID INT      PRIMARY KEY,  
EventName VARCHAR(200),  
EventDate Date,  
Location VARCHAR(200)  
);
```

```
mysql> drop table AdoptionEvents;  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> Create Table AdoptionEvents(  
    -> EventID INT      PRIMARY KEY,  
    -> EventName VARCHAR(200),  
    -> EventDate Date,  
    -> Location VARCHAR(200)  
    -> );  
Query OK, 0 rows affected (0.01 sec)
```

```
Create table Participants(  
ParticipantID INT PRIMARY KEY,  
ParticipantName VARCHAR(200),  
ParticipantType VARCHAR(200),  
EventID INT,  
FOREIGN KEY(EventID) REFERENCES AdoptionEvents(EventID)  
);
```

```
mysql> Create table Participants(
  -> ParticipantID INT PRIMARY KEY,
  -> ParticipantName VARCHAR(200),
  -> ParticipantType VARCHAR(200),
  -> EventID INT,
  -> FOREIGN KEY(EventID) REFERENCES AdoptionEvents(EventID)
  -> );
Query OK, 0 rows affected (0.04 sec)
```

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

```
mysql> ALTER TABLE participants ADD FOREIGN KEY(EventID)
  -> REFERENCES AdoptionEvents(EventID);
Query OK, 0 rows affected (2.89 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

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

CREATE DATABASE IF NOT EXISTS petpals;

```
mysql> CREATE DATABASE IF NOT EXISTS petpals;
Query OK, 1 row affected, 1 warning (0.00 sec)
```

create table if not exists participants(ParticipantID int primary key, ParticipantName varchar(50), participantType varchar(50), EventID int);

```
mysql> CREATE TABLE IF NOT EXISTS participants (
  -> ParticipantID INT PRIMARY KEY,
  -> ParticipantName VARCHAR(50),
  -> ParticipantType VARCHAR(50),
  -> EventID INT
  -> );
Query OK, 0 rows affected, 1 warning (0.00 sec)
```

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.

Select PetID, Name, Age, Breed, Type from Pets where create table if not exists participants(ParticipantID int primary key,ParticipantName varchar(50), participantType varchar(50), EventID int);

AvaliableForAdoption=1;

```
mysql> Select PetID, Name, Age, Breed, Type from Pets where AvaliableForAdoption=1;
```

PetID	Name	Age	Breed	Type
1	Raja	3	Labrador	Dog
2	Meera	2	Persian	Cat
3	Rani	1	Golden Retriever	Dog
4	Chandu	4	Siamese	Cat
5	Sheru	2	German Shepherd	Dog
6	Chinki	3	Maine Coon	Cat
8	Golu	1	Ragdoll	Cat
9	Chikki	2	Boxer	Dog

8 rows in set (0.00 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.

Set @eventID=5;

Select p.ParticipantName,p.participantType from Participants p JOIN AdoptionEvents a ON a.EventID=p.EventID;

```
mysql> Select p.ParticipantName,p.participantType from Participants p JOIN AdoptionEvents a ON a.EventID=p.EventID;
```

ParticipantName	participantType
Happy Paws Shelter	Shelter
Purrfect Haven	Shelter
Woof Woof Rescue	Shelter
Feline Friends Shelter	Shelter
Rescue Me Shelter	Shelter
Rahul Gupta	Adopter
Priya Sharma	Adopter
Amit Patel	Adopter
Deepika Singh	Adopter
Sonia Verma	Adopter

10 rows in set (0.00 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.

Set @ShelterID=1;

SET @Name='UPDATEDshelter';

SET @Location='2121 sai ram,Vizag';

Update Shelter set Name=@Name,Location=@Location where ShelterID=@

ShelterID;

```
mysql> Update Shelters set Name=@Name,Location=@Location where ShelterID=@ShelterID;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from shelters;
```

ShelterID	Name	Location
1	UPDATEDshelter	2121 sai ram,Vizag
2	Purrfect Haven	456 Elm St, Delhi
3	Woof Woof Rescue	789 Oak St, Bangalore
4	Feline Friends Shelter	321 Maple St, Chennai
5	Rescue Me Shelter	567 Pine St, Kolkata
6	Paws and Claws Adoption Center	890 Cedar St, Hyderabad
7	Meow Manor	234 Birch St, Pune
8	Bark Avenue Rescue	876 Walnut St, Jaipur
9	Whisker Wonders	543 Cherry St, Ahmedabad
10	Second Chance Shelter	901 Spruce St, Lucknow

```
10 rows in set (0.00 sec)
```

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.

Select s.Name,SUM(d.DonationAmount)AS TotalDonationAmount from
Donation d join Shelters s on d.DonatedTo=s.ShelterID GROUP BY s.Name;

```
mysql> Select s.Name,SUM(d.DonationAmount)AS TotalDonationAmount from Donations d join Shelters s on d.DonatedTo=s.ShelterID GROUP BY s.Name;
```

Name	TotalDonationAmount
UPDATEDshelter	1000.00
Purrfect Haven	500.00
Woof Woof Rescue	NULL
Feline Friends Shelter	750.00
Rescue Me Shelter	300.00
Paws and Claws Adoption Center	NULL
Meow Manor	2000.00
Bark Avenue Rescue	1500.00
Whisker Wonders	NULL
Second Chance Shelter	1200.00

```
10 rows in set (0.00 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.

Select * from Pets where AvaliableForAdoption=1;

```
mysql> select * from Pets where AvaliableForAdoption=1;
```

PetID	Name	Age	Breed	Type	AvaliableForAdoption
1	Raja	3	Labrador	Dog	1
2	Meera	2	Persian	Cat	1
3	Rani	1	Golden Retriever	Dog	1
4	Chandu	4	Siamese	Cat	1
5	Sheru	2	German Shepherd	Dog	1
6	Chinki	3	Maine Coon	Cat	1
8	Golu	1	Ragdoll	Cat	1
9	Chikki	2	Boxer	Dog	1

rows in set (0.00 sec)

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.

Select YEAR(DonationDate) AS DonationYear,MONTH(DonationDate) AS DonationMonth,SUM(DonationAmount) as TotalDonation FROM Donations GROUP BY YEAR(DonationDate),MONTH(DonationDate) ORDER BY YEAR(DonationDate),MONTH(DonationDate);

```
mysql> SELECT YEAR(DonationDate) AS DonationYear, MONTH(DonationDate) AS DonationMonth, SUM(DonationAmount) AS TotalDonation
-> FROM Donations
-> GROUP BY YEAR(DonationDate), MONTH(DonationDate)
-> ORDER BY YEAR(DonationDate), MONTH(DonationDate);
```

DonationYear	DonationMonth	TotalDonation
2023	2	300.00
2023	3	NULL
2023	4	1000.00
2023	5	1500.00
2023	7	NULL
2023	9	1700.00
2023	10	2750.00

```
7 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.

Select DISTINCT Breed from Pets where age BETWEEN 1 AND 3 OR age>5;

```
mysql> Select DISTINCT Breed from Pets where age BETWEEN 1 AND 3 OR age>5;
```

Breed
Labrador
Persian
Golden Retriever
German Shepherd
Maine Coon
Ragdoll
Boxer
Bengal
Beagle

```
9 rows in set (0.00 sec)
```

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

Select p.PetID,p.Name,s.name from Pets p join shelters s on p.SID=s.shelterID where AvailableForAdoption=1;

```
mysql> Select p.PetID,p.Name,s.name from Pets p join shelters s on p.SID=s.shelterID where AvailableForAdoption=1;
```

PetID	Name	name
1	Raja	UPDATEDshelter
2	Meera	Purrfect Haven
3	Rani	Woof Woof Rescue
4	Chandu	Feline Friends Shelter
5	Sheru	Rescue Me Shelter
6	Chinki	Paws and Claws Adoption Center
8	Golu	Bark Avenue Rescue
9	Chikki	Whisker Wonders
11	LUCKY	Second Chance Shelter

```
9 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

Select count(*) from Participants p JOIN AdoptionEvents a ON p. ParticipantID=a.EventID JOIN Shelters s ON a.SID=s.ShelterID where s.Location='2121 sai ram,Vizag' ;

```
mysql> Select count(*) from Participants p JOIN AdoptionEvents a ON p. ParticipantID=a.EventID JOIN Shelters s ON a.SID=s.ShelterID where s.Location='2121 sai ram,Vizag' ;
+-----+
| count(*) |
+-----+
|      1 |
+-----+
1 row in set (0.00 sec)
```

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

Select DISTINCT Breed from Pets where age BETWEEN 1 and 5;

```
mysql> Select DISTINCT Breed from Pets where age BETWEEN 1 and 5;
+-----+
| Breed |
+-----+
| Labrador |
| Persian |
| Golden Retriever |
| Siamese |
| German Shepherd |
| Maine Coon |
| Beagle |
| Ragdoll |
| Boxer |
| Bengal |
+-----+
10 rows in set (0.00 sec)
```

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

Select * from Pets where AvailableForAdoption=0;

```
mysql> Select * from Pets where AvailableForAdoption=0;
+-----+-----+-----+-----+-----+-----+
| PetID | Name   | Age | Breed | Type | AvailableForAdoption |
+-----+-----+-----+-----+-----+-----+
|      7 | Moti   | 5   | Beagle | Dog | 0 |
|     10 | Sundari | 2   | Bengal | Cat | 0 |
+-----+-----+-----+-----+-----+-----+
2 rows 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.

Select pe.Name,p.ParticipantName from Pets pe JOIN Participants p ON pe.PetID=p.PetID where pe.AvaliableForAdoption=0;

```
mysql> Select pe.Name,p.ParticipantName from Pets pe JOIN Participants p ON pe.PetID=p.PetID where pe.AvaliableForAdoption=0;
```

Name	ParticipantName
Moti	Priya
Sundari	Vivek

2 rows in set (0.00 sec)

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

SELECT s.ShelterID, s.Name AS ShelterName, COUNT(p.PetID) AS AvailablePetsCount

FROM Shelters s JOIN Pets p ON s.ShelterID = p.SID

WHERE p.AvaliableForAdoption = 1 OR p.AvaliableForAdoption IS NULL

GROUP BY s.ShelterID, s.Name;

```
mysql> SELECT s.ShelterID, s.Name AS ShelterName, COUNT(p.PetID) AS AvailablePetsCount
-> FROM Shelters s JOIN Pets p ON s.ShelterID = p.PetID
-> WHERE p.AvaliableForAdoption = 1 OR p.AvaliableForAdoption IS NULL
-> GROUP BY s.ShelterID, s.Name;
```

ShelterID	ShelterName	AvailablePetsCount
1	UPDATEDshelter	1
2	Purrfect Haven	1
3	Woof Woof Rescue	1
4	Feline Friends Shelter	1
5	Rescue Me Shelter	1
6	Paws and Claws Adoption Center	1
8	Bark Avenue Rescue	1
9	Whisker Wonders	1

8 rows in set (0.00 sec)

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

SELECT DISTINCT p1.Name AS Name1, p2.Name AS Name2, p1.Breed

```
FROM Pets p1
JOIN Pets p2 ON p1.SID = p2.SID AND p1.Breed = p2.Breed
WHERE p1.PetID <> p2.PetID;
```

```
mysql> SELECT DISTINCT
->     p1.Name AS Name1,
->     p2.Name AS Name2,
->     p1.Breed
-> FROM
->     Pets p1
-> JOIN
->     Pets p2 ON p1.SID = p2.SID AND p1.Breed = p2.Breed
-> WHERE
->     p1.PetID < p2.PetID;
+-----+-----+-----+
| Name1  | Name2 | Breed  |
+-----+-----+-----+
| Moti   | abc   | Beagle |
| Sundari | LUCKY | Bengal |
+-----+-----+-----+
2 rows in set (0.00 sec)
```

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

```
SELECT s.ShelterID, s.Name AS ShelterName, ae.EventID, ae.EventName
FROM Shelters s
CROSS JOIN AdoptionEvents ae;
```

```
mysql> SELECT s.ShelterID, s.Name AS ShelterName, ae.EventID, ae.EventName
-> FROM Shelters s
-> CROSS JOIN AdoptionEvents ae;
```

ShelterID	ShelterName	EventID	EventName
10	Second Chance Shelter	1	Furry Friends Meetup
9	Whisker Wonders	1	Furry Friends Meetup
8	Bark Avenue Rescue	1	Furry Friends Meetup
7	Meow Manor	1	Furry Friends Meetup
6	Paws and Claws Adoption Center	1	Furry Friends Meetup
5	Rescue Me Shelter	1	Furry Friends Meetup
4	Feline Friends Shelter	1	Furry Friends Meetup
3	Woof Woof Rescue	1	Furry Friends Meetup
2	Purrfect Haven	1	Furry Friends Meetup
1	UPDATEDshelter	1	Furry Friends Meetup
10	Second Chance Shelter	2	Paws for a Cause
9	Whisker Wonders	2	Paws for a Cause
8	Bark Avenue Rescue	2	Paws for a Cause
7	Meow Manor	2	Paws for a Cause
6	Paws and Claws Adoption Center	2	Paws for a Cause
5	Rescue Me Shelter	2	Paws for a Cause
4	Feline Friends Shelter	2	Paws for a Cause
3	Woof Woof Rescue	2	Paws for a Cause
2	Purrfect Haven	2	Paws for a Cause
1	UPDATEDshelter	2	Paws for a Cause
10	Second Chance Shelter	3	Woofstock
9	Whisker Wonders	3	Woofstock
8	Bark Avenue Rescue	3	Woofstock
7	Meow Manor	3	Woofstock
6	Paws and Claws Adoption Center	3	Woofstock
5	Rescue Me Shelter	3	Woofstock
4	Feline Friends Shelter	3	Woofstock
3	Woof Woof Rescue	3	Woofstock
2	Purrfect Haven	3	Woofstock
1	UPDATEDshelter	3	Woofstock
10	Second Chance Shelter	4	Meow Madness
9	Whisker Wonders	4	Meow Madness
8	Bark Avenue Rescue	4	Meow Madness
7	Meow Manor	4	Meow Madness
6	Paws and Claws Adoption Center	4	Meow Madness
5	Rescue Me Shelter	4	Meow Madness
4	Feline Friends Shelter	4	Meow Madness
3	Woof Woof Rescue	4	Meow Madness
2	Purrfect Haven	4	Meow Madness
1	UPDATEDshelter	4	Meow Madness
10	Second Chance Shelter	5	Bark in the Park
9	Whisker Wonders	5	Bark in the Park
8	Bark Avenue Rescue	5	Bark in the Park
7	Meow Manor	5	Bark in the Park
6	Paws and Claws Adoption Center	5	Bark in the Park
5	Rescue Me Shelter	5	Bark in the Park
4	Feline Friends Shelter	5	Bark in the Park
3	Woof Woof Rescue	5	Bark in the Park
2	Purrfect Haven	5	Bark in the Park
1	UPDATEDshelter	5	Bark in the Park
10	Second Chance Shelter	6	Paw Print Party
9	Whisker Wonders	6	Paw Print Party
8	Bark Avenue Rescue	6	Paw Print Party
7	Meow Manor	6	Paw Print Party
6	Paws and Claws Adoption Center	6	Paw Print Party
5	Rescue Me Shelter	6	Paw Print Party
4	Feline Friends Shelter	6	Paw Print Party

4	Feline Friends Shelter	7	Meow Mixer
3	Woof Woof Rescue	7	Meow Mixer
2	Purrfect Haven	7	Meow Mixer
1	UPDATEDshelter	7	Meow Mixer
10	Second Chance Shelter	8	Bark and Wine
9	Whisker Wonders	8	Bark and Wine
8	Bark Avenue Rescue	8	Bark and Wine
7	Meow Manor	8	Bark and Wine
6	Paws and Claws Adoption Center	8	Bark and Wine
5	Rescue Me Shelter	8	Bark and Wine
4	Feline Friends Shelter	8	Bark and Wine
3	Woof Woof Rescue	8	Bark and Wine
2	Purrfect Haven	8	Bark and Wine
1	UPDATEDshelter	8	Bark and Wine
10	Second Chance Shelter	9	Whisker Whirl
9	Whisker Wonders	9	Whisker Whirl
8	Bark Avenue Rescue	9	Whisker Whirl
7	Meow Manor	9	Whisker Whirl
6	Paws and Claws Adoption Center	9	Whisker Whirl
5	Rescue Me Shelter	9	Whisker Whirl
4	Feline Friends Shelter	9	Whisker Whirl
3	Woof Woof Rescue	9	Whisker Whirl
2	Purrfect Haven	9	Whisker Whirl
1	UPDATEDshelter	9	Whisker Whirl
10	Second Chance Shelter	10	Second Chance Celebration
9	Whisker Wonders	10	Second Chance Celebration
8	Bark Avenue Rescue	10	Second Chance Celebration
7	Meow Manor	10	Second Chance Celebration
6	Paws and Claws Adoption Center	10	Second Chance Celebration
5	Rescue Me Shelter	10	Second Chance Celebration
4	Feline Friends Shelter	10	Second Chance Celebration
3	Woof Woof Rescue	10	Second Chance Celebration
2	Purrfect Haven	10	Second Chance Celebration
1	UPDATEDshelter	10	Second Chance Celebration

100 rows in set (0.01 sec)

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

```
SELECT s.ShelterID, s.Name AS ShelterName, COUNT(p.PetID) AS
AdoptedPetsCount
```

```
FROM Shelters s JOIN Pets p ON s.ShelterID = p.SID
```

```
WHERE AvailableForAdoption =0
```

```
GROUP BY s.ShelterID, s.Name
```

```
ORDER BY AdoptedPetsCount DESC
```

```
LIMIT 1;
```

```
mysql> SELECT s.ShelterID, s.Name AS ShelterName, COUNT(p.PetID) AS AdoptedPetsCount
-> FROM Shelters s JOIN Pets p ON s.ShelterID = p.SID
-> WHERE AvailableForAdoption =0
-> GROUP BY s.ShelterID, s.Name
-> ORDER BY AdoptedPetsCount DESC
-> LIMIT 1;
```

ShelterID	ShelterName	AdoptedPetsCount
7	Meow Manor	2

1 row in set (0.00 sec)