

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

```
190 • CREATE DATABASE IF NOT EXISTS PetPals;
191 • USE PetPals;
```

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

```
194 • CREATE TABLE Pets (
195     PetID INT PRIMARY KEY AUTO_INCREMENT,
196     Name VARCHAR(50) NOT NULL,
197     Age INT NOT NULL,
198     Breed VARCHAR(50),
199     Type VARCHAR(50) NOT NULL,
200     AvailableForAdoption TINYINT(1) NOT NULL DEFAULT 0
201 );
202 -- Shelters table
203 • CREATE TABLE Shelters (
204     ShelterID INT PRIMARY KEY AUTO_INCREMENT,
205     Name VARCHAR(100) NOT NULL,
206     Location VARCHAR(255) NOT NULL
207 );
208 -- Donations table
209 • CREATE TABLE Donations (
210     DonationID INT PRIMARY KEY AUTO_INCREMENT,
211     DonorName VARCHAR(100) NOT NULL,
212     DonationType VARCHAR(50) NOT NULL,
213     DonationAmount DECIMAL(10,2) DEFAULT NULL,
214     DonationItem VARCHAR(255) DEFAULT NULL,
215     DonationDate DATETIME NOT NULL
216 );
220 • CREATE TABLE AdoptionEvents (
221     EventID INT PRIMARY KEY AUTO_INCREMENT,
222     EventName VARCHAR(100) NOT NULL,
223     EventDate DATETIME NOT NULL,
224     Location VARCHAR(255) NOT NULL
225 );
226
227 -- Participants table
228 • CREATE TABLE Participants (
229     ParticipantID INT PRIMARY KEY AUTO_INCREMENT,
230     ParticipantName VARCHAR(100) NOT NULL,
231     ParticipantType VARCHAR(50) NOT NULL,
232     EventID INT,
233     FOREIGN KEY (EventID) REFERENCES AdoptionEvents(EventID)
234 );
```

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

```

298 • ALTER TABLE Pets
299     ADD CONSTRAINT Available_Check CHECK (AvailableForAdoption IN (0,1));
300
301 • ALTER TABLE Donations
302     ADD CONSTRAINT DonationType_Check CHECK (
303         DonationType IN ('Cash', 'Item')
304     );

```

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.

```

306 • SELECT Name, Age, Breed, Type
307     FROM Pets
308     WHERE AvailableForAdoption = 1;
309
310

```

Result Grid				
Filter Rows: <input type="text"/>				
Export: Wrap Cell Content:				
	Name	Age	Breed	Type
▶	Max	2	Golden Retriever	Dog
	Charlie	3	Labrador Retriever	Dog
	Luna	4	Maine Coon	Cat
	Oliver	5	Siamese	Cat
	Daisy	3	Poodle	Dog
	Bella	5	British Shorthair	Cat

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.

```

310 • SELECT ParticipantName, ParticipantType
311     FROM Participants
312     JOIN AdoptionEvents ON Participants.EventID = AdoptionEvents.EventID
313     WHERE AdoptionEvents.EventID = 2;
314

```

Result Grid	
Filter Rows: <input type="text"/>	
Export: Wrap Cell Content:	
	ParticipantName ParticipantType
▶	Furever Home Shelter
	David Lee Adopter

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.

```
CREATE PROCEDURE UpdateShelter(
    IN shelterID INT,
    IN newName VARCHAR(100),
    IN newLocation VARCHAR(255)
)
BEGIN
    UPDATE Shelters
    SET Name = newName, Location = newLocation
    WHERE ShelterID = shelterID;

    IF @@ROW_COUNT = 0 THEN
        SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'Invalid Shelter ID';
    END IF;
END;
```

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.

```
330 • SELECT Shelters.Name, SUM(Donations.DonationAmount) AS TotalDonationAmount
331 FROM Donations
332 RIGHT JOIN Shelters ON Donations.DonationID = Shelters.ShelterID
333 GROUP BY Shelters.Name
334 WITH ROLLUP;
335
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
Name	TotalDonationAmount			
Animal Alliance	NULL			
Critter Haven	75.00			
Fido's Friends	30.00			
Furever Home Animal Sanctuary	NULL			
Happy Paws	50.00			
Purrfect Companions	NULL			
Second Chance Animal Rescue	25.00			
Tail Waggers Unleashed	NULL			
The Barking Lot	NULL			
Whisker City	100.00			
NULL	280.00			

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.

```
336 • SELECT Name, Age, Breed, Type
337 FROM Pets
338 WHERE OwnerID IS NULL;
```

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 spe

```
342 • SELECT DATE_FORMAT(DonationDate, '%Y-%m') AS MonthYear, SUM(DonationAmount) AS TotalDonationAmount
343 FROM Donations
344 GROUP BY MonthYear
345 WITH ROLLUP;
346
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
MonthYear	TotalDonationAmount			
2023-10	175.00			
2023-11	105.00			
ROLLUP	280.00			

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

```
347 • SELECT DISTINCT Breed
348 FROM Pets
349 WHERE (Age BETWEEN 1 AND 3) OR Age > 5;
350
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
Breed				
Golden Retriever				
Persian				
Labrador Retriever				
German Shepherd				
French Bulldog				
Poodle				

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

```

351 • SELECT Pets.*, Shelters.Name AS ShelterName
352 FROM Pets
353 JOIN Shelters ON Pets.PetID = Shelters.ShelterID
354 WHERE AvailableForAdoption = 1;
355

```

Result Grid							
Filter Rows: <input type="text"/>							
Export: Wrap Cell Content:							
	PetID	Name	Age	Breed	Type	AvailableForAdoption	ShelterName
▶	1	Max	2	Golden Retriever	Dog	1	Happy Paws
	3	Charlie	3	Labrador Retriever	Dog	1	Second Chance Animal Rescue
	4	Luna	4	Maine Coon	Cat	1	Tail Waggers Unleashed
	6	Oliver	5	Siamese	Cat	1	The Barking Lot
	8	Daisy	3	Poodle	Dog	1	Animal Alliance
	10	Bella	5	British Shorthair	Cat	1	Purrfect Companions

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

```

356 • SELECT COUNT(*) AS TotalParticipants
357 FROM Participants
358 JOIN AdoptionEvents ON Participants.EventID = AdoptionEvents.EventID
359 WHERE AdoptionEvents.Location = 'Careville';
360

```

Result Grid	
Filter Rows: <input type="text"/>	
Export: Wrap Cell Content:	
	TotalParticipants
▶	0

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

```

361 • SELECT DISTINCT Breed
362 FROM Pets
363 WHERE Age BETWEEN 1 AND 5;
364

```

Result Grid	
Filter Rows: <input type="text"/>	
Export: Wrap Cell Content:	
	Breed
▶	Golden Retriever
	Persian
	Labrador Retriever
	Maine Coon
	German Shepherd
	Siamese
	French Bulldog
	Poodle
	Ragdoll
	British Shorthair

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

```
366 • SELECT PetID, Name, Age, Breed, Type
367 FROM Pets
368 WHERE NOT EXISTS (
369     SELECT * FROM AdoptionEvents
370     WHERE AdoptionEvents.PetID = Pets.PetID
371 );
```

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

```
375 • SELECT Pets.Name AS PetName, Users.Name AS AdopterName
376 FROM Pets
377 JOIN Adoption ON Pets.PetID = Adoption.PetID
378 JOIN Users ON Adoption.UserID = Users.UserID;
```

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

```
381 • SELECT Shelters.Name AS ShelterName, COUNT(*) AS AvailablePets
382 FROM Shelters
383 JOIN Pets ON Shelters.ShelterID = Pets.ShelterID
384 WHERE AvailableForAdoption = 1
385 GROUP BY Shelters.ShelterID;
```

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

```
387 • SELECT Pet1.Name AS Pet1Name, Pet2.Name AS Pet2Name
388 FROM Pets AS Pet1
389 JOIN Pets AS Pet2 ON Pet1.ShelterID = Pet2.ShelterID
390 WHERE Pet1.Breed = Pet2.Breed AND Pet1.PetID <> Pet2.PetID;
```

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


```

392 • SELECT Shelters.Name AS ShelterName, AdoptionEvents.EventName
393 FROM Shelters
394 CROSS JOIN AdoptionEvents;
395

```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
ShelterName	EventName			
Purrfect Companions	Fall Adoption Festival			
Fido's Friends	Fall Adoption Festival			
Animal Alliance	Fall Adoption Festival			
Critter Haven	Fall Adoption Festival			
The Barking Lot	Fall Adoption Festival			
Whisker City	Fall Adoption Festival			
Tail Waggers Unleashed	Fall Adoption Festival			
Second Chance Animal Rescue	Fall Adoption Festival			
Furever Home Animal Sanctuary	Fall Adoption Festival			
Happy Paws	Fall Adoption Festival			
Purrfect Companions	Halloween Spooktac...			
Fido's Friends	Halloween Spooktac...			
Animal Alliance	Halloween Spooktac...			
Critter Haven	Halloween Spooktac...			
The Barking Lot	Halloween Spooktac...			
Whisker City	Halloween Spooktac...			
Tail Waggers Unleashed	Halloween Spooktac...			
Second Chance Animal Rescue	Halloween Spooktac...			
Furever Home Animal Sanctuary	Halloween Spooktac...			
Happy Paws	Halloween Spooktac...			
Purrfect Companions	Yappy Hour Adoptio...			
Fido's Friends	Yappy Hour Adoptio...			
Animal Alliance	Yappy Hour Adoptio...			
Critter Haven	Yappy Hour Adoptio...			

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

```

396 • SELECT Shelters.Name AS ShelterName, COUNT(*) AS TotalAdoptedPets
397 FROM Shelters
398 JOIN Pets ON Shelters.ShelterID = Pets.ShelterID
399 JOIN Adoption ON Pets.PetID = Adoption.PetID
400 GROUP BY Shelters.ShelterID
401 ORDER BY TotalAdoptedPets DESC
402 LIMIT 1;

```