

## Coding Challenges - PetPals, The Pet Adoption Platform

### Instructions

- Coding Challenge submissions should be done through the participants' Github repository, and the link should be shared with trainers and Hexavarsity.

### Problem Statement:

Create SQL Schema from the pet and user class, use the class attributes for table column names.

### SQL Schema:

#### Table: Pets

##### Attributes:

- PetID (Primary Key, int): Unique identifier for each pet.
- Name (string): The name of the pet.
- Age (int): The age of the pet.
- Breed (string): The breed of the pet.
- Type (string): Type of pet (e.g., "Dog," "Cat").
- AvailableForAdoption (bit): Indicates whether the pet is available for adoption (0 for not available, 1 for available).

#### Table: Shelters

##### Attributes:

- ShelterID (Primary Key, int): Unique identifier for each shelter.
- Name (string): The name of the shelter.
- Location (string): The location or address of the shelter.

#### Table: Donations

#### Table: Donations

##### Attributes:

- DonationID (Primary Key, int): Unique identifier for each donation.
- DonorName (string): The name of the donor.
- DonationType (string): Type of donation (e.g., "Cash," "Item").
- DonationAmount (decimal): The amount donated (for cash donations).
- DonationItem (string): The type of item donated (for item donations).
- DonationDate (datetime): Date and time of the donation.

#### Table: AdoptionEvents

##### Attributes:

- EventID (Primary Key, int): Unique identifier for each adoption event.
- EventName (string): The name or title of the event.
- EventDate (datetime): Date and time of the event.
- Location (string): The location or venue of the event.

#### Table: Participants

##### Attributes:

- ParticipantID (Primary Key, int): Unique identifier for each participant.
- ParticipantName (string): The name of the participant (shelter or adopter).
- ParticipantType (string): Type of participant (e.g., "Shelter," "Adopter").
- EventID (Foreign Key, int): References the EventID of the associated adoption event (if applicable).

### Tasks:

1. Provide a SQL script that initializes the database for the Pet Adoption Platform "PetPals".
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.
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.
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.
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.
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.
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.
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.
11. Retrieve a list of distinct breeds for all pets that are either aged between 1 and 3 years or older than 5 years.
12. Retrieve a list of pets and their respective shelters where the pets are currently available for adoption.
13. Find the total number of participants in events organized by shelters located in specific city.  
Example: City=Chennai
14. Retrieve a list of unique breeds for pets with ages between 1 and 5 years.
15. Find the pets that have not been adopted by selecting their information from the 'Pet' table.
16. Retrieve the names of all adopted pets along with the adopter's name from the 'Adoption' and 'User' tables.
17. Retrieve a list of all shelters along with the count of pets currently available for adoption in each shelter.
18. Find pairs of pets from the same shelter that have the same breed.
19. List all possible combinations of shelters and adoption events.
20. Determine the shelter that has the highest number of adopted pets.

dependent on columns in GROUP BY clause; this is incompatible with sql\_mode=only\_full\_group\_by

mysql> SELECT DISTINCT

```
-> Breed
-> FROM
-> Pets
-> WHERE
-> (Age BETWEEN 1 AND 3)
-> OR (Age > 5);
```

Breed
Golden Retriever
Siamese
Labrador Retriever
Tabby
Beagle
Persian
Maine Coon

7 rows in set (0.31 sec)

mysql> SELECT DISTINCT Breed

```
-> FROM Pets
-> WHERE Age BETWEEN 1 AND 5;
```

Breed
Golden Retriever
Siamese
Labrador Retriever
German Shepherd
Poodle
Beagle
Persian
German Shorthaired Pointer
Maine Coon

9 rows in set (0.03 sec)

mysql>



```
mysql> CREATE TABLE AdoptionEvents (  
-> EventID int PRIMARY KEY,  
-> EventName text NOT NULL,  
-> EventDate datetime NOT NULL,  
-> Location text NOT NULL  
-> );
```

Query OK, 0 rows affected (1.03 sec)

```
mysql> INSERT INTO AdoptionEvents (EventID, EventName, EventDate, Location)  
-> VALUES  
-> (1, 'PetPal Adoption Day', '2023-01-25 13:00:00', 'Community Center'),  
-> (2, 'Furry Friends Fair', '2023-02-10 11:30:00', 'City Park'),  
-> (3, 'Paws in the Park', '2023-03-15 14:45:00', 'Dog Park'),  
-> (4, 'Whisker Wonderland Adoption Event', '2023-04-05 10:00:00', 'Pet Store'),  
-> (5, 'Canine Carnival', '2023-05-20 12:30:00', 'Fairgrounds'),  
-> (6, 'Meow Mania', '2023-06-08 15:15:00', 'Cat Cafe'),  
-> (7, 'Bark in the Park', '2023-07-12 09:45:00', 'City Stadium'),  
-> (8, 'Feathered Friends Expo', '2023-08-25 16:30:00', 'Exhibition Center'),  
-> (9, 'Purr-fect Pet Parade', '2023-09-19 11:00:00', 'Downtown Square'),  
-> (10, 'Doggy Delight Showcase', '2023-10-30 14:00:00', 'Mall Atrium');
```

Query OK, 10 rows affected (0.34 sec)

Records: 10 Duplicates: 0 Warnings: 0

```
mysql> select * from Adoption Day;  
ERROR 1146 (42S02): Table 'petpals.adoption' doesn't exist  
mysql> select * from AdoptionEvents;
```

EventID	EventName	EventDate	Location
1	PetPal Adoption Day	2023-01-25 13:00:00	Community Center
2	Furry Friends Fair	2023-02-10 11:30:00	City Park
3	Paws in the Park	2023-03-15 14:45:00	Dog Park
4	Whisker Wonderland Adoption Event	2023-04-05 10:00:00	Pet Store
5	Canine Carnival	2023-05-20 12:30:00	Fairgrounds
6	Meow Mania	2023-06-08 15:15:00	Cat Cafe
7	Bark in the Park	2023-07-12 09:45:00	City Stadium
8	Feathered Friends Expo	2023-08-25 16:30:00	Exhibition Center
9	Purr-fect Pet Parade	2023-09-19 11:00:00	Downtown Square
10	Doggy Delight Showcase	2023-10-30 14:00:00	Mall Atrium

10 rows in set (0.00 sec)

```
mysql>
```



```
EventID int PRIMARY KEY,  
EventName text N' at line 1  
mysql> CREATE TABLE Participants (  
-> ParticipantID int PRIMARY KEY,  
-> ParticipantName varchar(255) NOT NULL,  
-> ParticipantType varchar(255) NOT NULL,  
-> EventID int DEFAULT NULL,  
-> FOREIGN KEY (EventID) REFERENCES AdoptionEvents(EventID)  
-> );  
Query OK, 0 rows affected (2.91 sec)  
  
mysql> INSERT INTO Participants (ParticipantID, ParticipantName, ParticipantType, EventID)  
-> VALUES  
-> (1, 'Happy Paws Shelter', 'Shelter', 1),  
-> (2, 'Pet Lovers Association', 'Adopter', 1),  
-> (3, 'Furry Tails Rescue', 'Shelter', 2),  
-> (4, 'Animal Advocates Club', 'Adopter', 2),  
-> (5, 'Safe Haven Pet Sanctuary', 'Shelter', 3),  
-> (6, 'Whisker Wonders Group', 'Adopter', 3),  
-> (7, 'Canine Companions Guild', 'Shelter', 4),  
-> (8, 'Pawsome Families Association', 'Adopter', 4),  
-> (9, 'Feathered Friends Society', 'Shelter', 5),  
-> (10, 'Doggy Delight Enthusiasts', 'Adopter', 5);  
Query OK, 10 rows affected (0.41 sec)  
Records: 10 Duplicates: 0 Warnings: 0
```

```
mysql> select * from Participants;
```

ParticipantID	ParticipantName	ParticipantType	EventID
1	Happy Paws Shelter	Shelter	1
2	Pet Lovers Association	Adopter	1
3	Furry Tails Rescue	Shelter	2
4	Animal Advocates Club	Adopter	2
5	Safe Haven Pet Sanctuary	Shelter	3
6	Whisker Wonders Group	Adopter	3
7	Canine Companions Guild	Shelter	4
8	Pawsome Families Association	Adopter	4
9	Feathered Friends Society	Shelter	5
10	Doggy Delight Enthusiasts	Adopter	5

```
10 rows in set (0.05 sec)
```

```
mysql>
```



ParticipantID	ParticipantName	ParticipantType	EventID
1	Happy Paws Shelter	Shelter	1
2	Pet Lovers Association	Adopter	1
3	Furry Tails Rescue	Shelter	2
4	Animal Advocates Club	Adopter	2
5	Safe Haven Pet Sanctuary	Shelter	3
6	Whisker Wonders Group	Adopter	3
7	Canine Companions Guild	Shelter	4
8	Pawsome Families Association	Adopter	4
9	Feathered Friends Society	Shelter	5
10	Doggy Delight Enthusiasts	Adopter	5

10 rows in set (0.05 sec)

mysql> /\* TASK 1 5TH QUESTION \*/

mysql> SELECT Name, Age, Breed, Type

-> FROM Pets

-> WHERE AvailableForAdoption = 0X01;

ERROR 1054 (42S22): Unknown column '0X01' in 'where clause'

mysql> SELECT Name, Age, Breed, Type

-> FROM Pets

-> WHERE AvailableForAdoption like 0X01;

ERROR 1054 (42S22): Unknown column '0X01' in 'where clause'

mysql> SELECT Name, Age, Breed, Type

-> FROM Pets

-> WHERE AvailableForAdoption == 0X01;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '== 0X01' at line 3

mysql> SELECT Name, Age, Breed, Type

-> FROM Pets

-> WHERE AvailableForAdoption = 0X01;

ERROR 1054 (42S22): Unknown column '0X01' in 'where clause'

mysql> SELECT Name, Age, Breed, Type

-> FROM Pets

-> WHERE AvailableForAdoption = '0X01';

Name	Age	Breed	Type
Luna	1	Siamese	Cat
Milo	5	Poodle	Dog
Chloe	3	Maine Coon	Cat

3 rows in set, 1 warning (0.44 sec)



Database changed

```
mysql> CREATE TABLE Pets (  
-> PetID int PRIMARY KEY,  
-> Name varchar(255) NOT NULL,  
-> Age int NOT NULL,  
-> Breed varchar(255),  
-> Type varchar(255) NOT NULL,  
-> AvailableForAdoption bit NOT NULL DEFAULT 1  
-> );
```

Query OK, 0 rows affected (14.38 sec)

```
mysql> INSERT INTO Pets (PetID, Name, Age, Breed, Type, AvailableForAdoption)
```

```
-> VALUES  
-> (1, 'Max', 2, 'Golden Retriever', 'Dog', 1),  
-> (2, 'Luna', 1, 'Siamese', 'Cat', 0),  
-> (3, 'Charlie', 3, 'Labrador Retriever', 'Dog', 1),  
-> (4, 'Bella', 4, 'German Shepherd', 'Dog', 1),  
-> (5, 'Milo', 5, 'Poodle', 'Dog', 0),  
-> (6, 'Whiskers', 8, 'Tabby', 'Cat', 1),  
-> (7, 'Oliver', 1, 'Beagle', 'Dog', 1),  
-> (8, 'Daisy', 2, 'Persian', 'Cat', 1),  
-> (9, 'Rex', 4, 'German Shorthaired Pointer', 'Dog', 1),  
-> (10, 'Chloe', 3, 'Maine Coon', 'Cat', 0);
```

Query OK, 10 rows affected (7.58 sec)

Records: 10 Duplicates: 0 Warnings: 0

```
mysql> select * from Pets;
```

PetID	Name	Age	Breed	Type	AvailableForAdoption
1	Max	2	Golden Retriever	Dog	0x01
2	Luna	1	Siamese	Cat	0x00
3	Charlie	3	Labrador Retriever	Dog	0x01
4	Bella	4	German Shepherd	Dog	0x01
5	Milo	5	Poodle	Dog	0x00
6	Whiskers	8	Tabby	Cat	0x01
7	Oliver	1	Beagle	Dog	0x01
8	Daisy	2	Persian	Cat	0x01
9	Rex	4	German Shorthaired Pointer	Dog	0x01
10	Chloe	3	Maine Coon	Cat	0x00

10 rows in set (0.37 sec)

mysql&gt;



```
mysql> CREATE TABLE Shelters (  
->   ShelterID int PRIMARY KEY,  
->   Name varchar(255) NOT NULL,  
->   Location varchar(255) NOT NULL  
-> );
```

Query OK, 0 rows affected (2.23 sec)

```
mysql> INSERT INTO Shelters (ShelterID, Name, Location)  
-> VALUES  
->   (1, 'Happy Paws Shelter', '123 Main Street, Cityville'),  
->   (2, 'Cozy Critters Rescue', '456 Oak Avenue, Townsville'),  
->   (3, 'Safe Haven for Pets', '789 Pine Lane, Villagetown'),  
->   (4, 'Furry Friends Haven', '101 Maple Street, Countryside'),  
->   (5, 'Whisker Wonderland', '202 Cedar Avenue, Catland'),  
->   (6, 'Doggy Delight Rescue', '303 Birch Lane, Dogsville'),  
->   (7, 'Heavenly Homes for Pets', '404 Elm Street, Petropolis'),  
->   (8, 'Purr Paradise', '505 Spruce Avenue, Kitty City'),  
->   (9, 'Canine Companions Haven', '606 Pine Lane, Woofington'),  
->   (10, 'Feathered Friends Sanctuary', '707 Oak Avenue, Birdsville');
```

Query OK, 10 rows affected (0.59 sec)

Records: 10 Duplicates: 0 Warnings: 0

```
mysql> select * from Shelters;
```

ShelterID	Name	Location
1	Happy Paws Shelter	123 Main Street, Cityville
2	Cozy Critters Rescue	456 Oak Avenue, Townsville
3	Safe Haven for Pets	789 Pine Lane, Villagetown
4	Furry Friends Haven	101 Maple Street, Countryside
5	Whisker Wonderland	202 Cedar Avenue, Catland
6	Doggy Delight Rescue	303 Birch Lane, Dogsville
7	Heavenly Homes for Pets	404 Elm Street, Petropolis
8	Purr Paradise	505 Spruce Avenue, Kitty City
9	Canine Companions Haven	606 Pine Lane, Woofington
10	Feathered Friends Sanctuary	707 Oak Avenue, Birdsville

10 rows in set (0.00 sec)

```
mysql>
```





```
mysql> CREATE TABLE Donations (  
-> DonationID int PRIMARY KEY,  
-> DonorName text NOT NULL,  
-> DonationType text NOT NULL,  
-> DonationAmount decimal(10,2),  
-> DonationItem text,  
-> DonationDate datetime NOT NULL  
-> );  
Query OK, 0 rows affected (2.12 sec)
```

```
mysql> INSERT INTO Donations (DonationID, DonorName, DonationType, DonationAmount, DonationItem, DonationDate)  
-> VALUES  
-> (1, 'John Smith', 'Cash', 100.00, NULL, '2023-01-15 09:30:00'),  
-> (2, 'Alice Johnson', 'Item', NULL, 'Pet Food', '2023-02-02 15:45:00'),  
-> (3, 'Robert Brown', 'Cash', 50.00, NULL, '2023-03-10 12:20:00'),  
-> (4, 'Emma Davis', 'Item', NULL, 'Blankets', '2023-04-05 18:00:00'),  
-> (5, 'Michael Wilson', 'Cash', 75.50, NULL, '2023-05-20 11:10:00'),  
-> (6, 'Sophia Martinez', 'Item', NULL, 'Toys', '2023-06-08 14:30:00'),  
-> (7, 'Daniel Taylor', 'Cash', 120.00, NULL, '2023-07-12 10:15:00'),  
-> (8, 'Olivia White', 'Item', NULL, 'Cat Litter', '2023-08-25 17:45:00'),  
-> (9, 'James Lee', 'Cash', 90.25, NULL, '2023-09-19 13:05:00'),  
-> (10, 'Ava Garcia', 'Item', NULL, 'Dog Bowls', '2023-10-30 08:40:00');  
Query OK, 10 rows affected (0.36 sec)  
Records: 10 Duplicates: 0 Warnings: 0
```

```
mysql> select * from Donations;
```

DonationID	DonorName	DonationType	DonationAmount	DonationItem	DonationDate
1	John Smith	Cash	100.00	NULL	2023-01-15 09:30:00
2	Alice Johnson	Item	NULL	Pet Food	2023-02-02 15:45:00
3	Robert Brown	Cash	50.00	NULL	2023-03-10 12:20:00
4	Emma Davis	Item	NULL	Blankets	2023-04-05 18:00:00
5	Michael Wilson	Cash	75.50	NULL	2023-05-20 11:10:00
6	Sophia Martinez	Item	NULL	Toys	2023-06-08 14:30:00
7	Daniel Taylor	Cash	120.00	NULL	2023-07-12 10:15:00
8	Olivia White	Item	NULL	Cat Litter	2023-08-25 17:45:00
9	James Lee	Cash	90.25	NULL	2023-09-19 13:05:00
10	Ava Garcia	Item	NULL	Dog Bowls	2023-10-30 08:40:00

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

```
mysql>
```

