

## Coding Challenges-PetPals,The Pet Adoption Platform

1. Provide a sql script that initializes the database for the pet adoption platform "PetPals"

```
mysql> CREATE DATABASE IF NOT EXISTS PetPals;  
Query OK, 1 row affected, 1 warning (0.01 sec)
```

```
mysql> show databases;
```

```
+-----+  
| Database  
+-----+  
| careerhub  
| courier_management_system  
| d1  
| hexaware  
| hmbank  
| information_schema  
| mysql  
| performance_schema  
| petpals  
| sakila  
| sisdb  
| subquery  
| sys  
| techshop  
| ticketbookingsystem  
| world  
+-----+  
16 rows in set (0.00 sec)
```

```
mysql> use petpals;  
Database changed
```

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

Pets

```
mysql> desc pets;
```

Field	Type	Null	Key	Default	Extra
PetId	int	NO	PRI	NULL	
Name	text	YES		NULL	
Age	int	YES		NULL	
Breed	text	YES		NULL	
Type	text	YES		NULL	
AvailableForAdoption	enum('1','0')	YES		NULL	

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

## Shelters

```
mysql> create table Shelters(ShelterId int primary key,Name text,Location text);
Query OK, 0 rows affected (0.09 sec)
```

```
mysql> desc Shelters;
```

Field	Type	Null	Key	Default	Extra
ShelterId	int	NO	PRI	NULL	
Name	text	YES		NULL	
Location	text	YES		NULL	

```
3 rows in set (0.04 sec)
```

## Donations

```
mysql> create table Donations(DonationId int primary key,DonorName text,DonationType text,DonationAmount DECIMAL(10, 2),DonationItem text,DonationDate datetime);
Query OK, 0 rows affected (0.06 sec)
```

```
mysql> desc Donations
-> ;
```

Field	Type	Null	Key	Default	Extra
DonationId	int	NO	PRI	NULL	
DonorName	text	YES		NULL	
DonationType	text	YES		NULL	
DonationAmount	decimal(10,2)	YES		NULL	
DonationItem	text	YES		NULL	
DonationDate	datetime	YES		NULL	

```
6 rows in set (0.02 sec)
```

## AdoptionEvents

```
mysql> create table AdoptionEvents(EventId int primary key,EventName text,EventDate datetime,Location text);
Query OK, 0 rows affected (0.04 sec)

mysql> desc AdoptionEvents;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| EventId    | int       | NO   | PRI | NULL    |       |
| EventName  | text      | YES  |     | NULL    |       |
| EventDate  | datetime  | YES  |     | NULL    |       |
| Location   | text      | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)
```

## Participants

```
mysql> create table Participants(ParticipantId int primary key,ParticipantName text,ParticipantType text,EventId int,foreign key(EventId) references AdoptionEvents(EventId));
Query OK, 0 rows affected (0.09 sec)

mysql> desc Participants;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ParticipantId | int       | NO   | PRI | NULL    |       |
| ParticipantName | text      | YES  |     | NULL    |       |
| ParticipantType | text      | YES  |     | NULL    |       |
| EventId      | int       | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

### 3. Create primary and foreign key .

Already done above

### 4.Ensure script handles potential errors

```
mysql> CREATE DATABASE IF NOT EXISTS PetPals;
Query OK, 1 row affected, 1 warning (0.01 sec)
```

```
mysql> show databases;
```

```
+-----+
| Database |
+-----+
| careerhub |
| courier_management_system |
| d1 |
| hexaware |
| hmbank |
| information_schema |
| mysql |
| performance_schema |
| petpals |
| sakila |
| sisdb |
| subquery |
| sys |
| techshop |
| ticketbookingsystem |
| world |
+-----+
16 rows in set (0.00 sec)
```

5.list the available pets

```
mysql> select * from pets where AvailableForAdoption='1';
```

```
+-----+-----+-----+-----+-----+-----+
| PetId | Name | Age | Breed | Type | AvailableForAdoption |
+-----+-----+-----+-----+-----+-----+
| 2 | Whiskers | 5 | Siamese | Cat | 1 |
| 3 | Max | 2 | Golden Retriever | Dog | 1 |
| 4 | Fluffy | 4 | Persian | Cat | 1 |
| 5 | Rocky | 1 | German Shepherd | Dog | 1 |
| 6 | Oreo | 2 | Domestic Shorthair | Cat | 1 |
| 8 | Charlie | 2 | Beagle | Dog | 1 |
| 9 | Simba | 3 | Maine Coon | Cat | 1 |
| 11 | Siya | 1 | Bengal | Cat | 1 |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)
```

6.Retrieves the name of the participants registered for a specific event.

```
mysql> select * from participants;
```

ParticipantId	ParticipantName	ParticipantType	EventId
1	Amy Johnson	Volunteer	1
2	Mark Davis	Volunteer	2
3	Sophia Wilson	Attendee	1
4	Ethan Miller	Volunteer	3
5	Ava Garcia	Attendee	2
6	Noah Martinez	Volunteer	1
7	Emma Rodriguez	Attendee	3
8	Liam Lee	Volunteer	2
9	Olivia Brown	Attendee	1
10	William Taylor	Volunteer	3

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

  

```
mysql> select ParticipantName, ParticipantType,EventId from participants where EventId=1;
```

ParticipantName	ParticipantType	EventId
Amy Johnson	Volunteer	1
Sophia Wilson	Attendee	1
Noah Martinez	Volunteer	1
Olivia Brown	Attendee	1

```
4 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

```

mysql> DELIMITER //
mysql>
mysql> CREATE PROCEDURE UpdateShelterInfo(
->     IN shelterIDParam INT,
->     IN newName VARCHAR(100),
->     IN newLocation VARCHAR(255),
->     OUT resultMessage VARCHAR(255)
-> )
-> BEGIN
->     DECLARE shelterExists INT;
->
->     SELECT COUNT(*) INTO shelterExists FROM Shelters WHERE ShelterID = shelterIDParam;
->
->     IF shelterExists = 0 THEN
->         SET resultMessage = 'Invalid shelter ID. Shelter does not exist.';
->     ELSE
->         BEGIN
->             UPDATE Shelters
->             SET Name = newName, Location = newLocation
->             WHERE ShelterID = shelterIDParam;
->
->             SET resultMessage = 'Shelter information updated successfully.';
->         END;
->     END IF;
-> END //
Query OK, 0 rows affected (0.06 sec)

mysql>
mysql> DELIMITER ;

```

```

mysql> CALL UpdateShelterInfo(11, 'Paw Bestfriend', 'Delhi', @resultMessage);
Query OK, 1 row affected (0.04 sec)

```

```

mysql> SELECT @resultMessage AS Result;
+-----+
| Result |
+-----+
| Invalid shelter ID. Shelter does not exist. |
+-----+
1 row in set (0.00 sec)

```

```

mysql> CALL UpdateShelterInfo(2, 'Bestfriend', 'Chennai', @resultMessage);
Query OK, 1 row affected (0.04 sec)

```

```

mysql> SELECT @resultMessage AS Result;
+-----+
| Result |
+-----+
| Shelter information updated successfully. |
+-----+
1 row in set (0.00 sec)

```

```
mysql> select * from shelters;
```

ShelterId	Name	Location
1	Paw Bestfriend	Delhi
2	Bestfriend	Chennai
3	Companion Care Shelter	789 Oak Avenue, City C
4	Safe Haven Shelter	321 Cedar Lane, City D
5	Furry Friends Refuge	555 Maple Drive, City E
6	Paw Prints Shelter	101 Pine Street, City F
7	Rescue Haven	777 Oakwood Avenue, City G
8	Loving Paws Sanctuary	888 Elm Drive, City H
9	Happy Tails Shelter	222 Birch Lane, City I
10	Safe Haven Rescue	444 Willow Road, City J

```
10 rows in set (0.04 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.

```

mysql> ALTER TABLE Donations
  -> ADD COLUMN ShelterID INT,
  -> ADD CONSTRAINT FK_Donation_ShelterID FOREIGN KEY (ShelterID) REFERENCES Shelters(ShelterID);
Query OK, 10 rows affected (0.32 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql> UPDATE Donations
  -> SET ShelterID = 2 where donationid=1;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Donations set shelterid = 2 where donationid=2;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Donations set shelterid = 1 where donationid=3;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Donations set shelterid = 10 where donationid=4;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Donations set shelterid = 9 where donationid=5;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Donations set shelterid = 8 where donationid=6;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Donations set shelterid = 7 where donationid=7;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Donations set shelterid = 3 where donationid=8;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Donations set shelterid = 4 where donationid=9;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Donations set shelterid = 5 where donationid=10;
Query OK, 1 row affected (0.04 sec)

```

```

mysql> select * from donations;

```

DonationId	DonorName	DonationType	DonationAmount	DonationItem	DonationDate	ShelterID
1	John Doe	Monetary	100.00	NULL	2022-11-01 00:00:00	2
2	Jane Smith	Monetary	50.00	NULL	2023-12-05 11:45:00	2
3	Alice Johnson	Item	NULL	Pet Food	2023-12-10 13:00:00	1
4	Bob Anderson	Monetary	75.00	NULL	2021-01-01 00:00:00	10
5	Emily Brown	Item	NULL	Blankets	2021-10-01 00:00:00	9
6	Michael Clark	Monetary	120.00	NULL	2023-12-25 14:15:00	8
7	Sarah Wilson	Monetary	90.00	NULL	2023-12-28 15:45:00	7
8	David Lee	Item	NULL	Toys	2023-12-30 16:30:00	3
9	Olivia Martin	Monetary	200.00	NULL	2023-12-02 08:00:00	4
10	William Taylor	Item	NULL	Leashes	2023-12-07 09:45:00	5

```

10 rows in set (0.00 sec)

```



```
mysql> SELECT S.Name AS ShelterName, COALESCE(SUM(D.DonationAmount), 0) AS TotalDonationAmount
-> FROM Shelters S
-> LEFT JOIN Donations D ON S.ShelterID = D.ShelterID
-> GROUP BY S.Name;
```

ShelterName	TotalDonationAmount
Paw Bestfriend	0.00
Bestfriend	150.00
Companion Care Shelter	0.00
Safe Haven Shelter	200.00
Furry Friends Refuge	0.00
Paw Prints Shelter	0.00
Rescue Haven	90.00
Loving Paws Sanctuary	120.00
Happy Tails Shelter	0.00
Safe Haven Rescue	75.00

10 rows in set (0.01 sec)

9.Retrieves the name of the pets that donot have owner

```
mysql> select * from pets;
```

PetId	Name	Age	Breed	Type	AvailableForAdoption	OwnerId
1	Buddy	3	Labrador Retriever	Dog	0	1
2	Whiskers	5	Siamese	Cat	1	NULL
3	Max	2	Golden Retriever	Dog	1	NULL
4	Fluffy	4	Persian	Cat	1	NULL
5	Rocky	1	German Shepherd	Dog	1	NULL
6	Oreo	2	Domestic Shorthair	Cat	1	NULL
7	Luna	6	Bengal	Cat	0	2
8	Charlie	2	Beagle	Dog	1	NULL
9	Simba	3	Maine Coon	Cat	1	NULL
10	Daisy	4	Dachshund	Dog	0	3
11	Siya	1	Bengal	Cat	1	NULL

11 rows in set (0.00 sec)

```
mysql> select * from pets where OwnerId is NULL;
```

PetId	Name	Age	Breed	Type	AvailableForAdoption	OwnerId
2	Whiskers	5	Siamese	Cat	1	NULL
3	Max	2	Golden Retriever	Dog	1	NULL
4	Fluffy	4	Persian	Cat	1	NULL
5	Rocky	1	German Shepherd	Dog	1	NULL
6	Oreo	2	Domestic Shorthair	Cat	1	NULL
8	Charlie	2	Beagle	Dog	1	NULL
9	Simba	3	Maine Coon	Cat	1	NULL
11	Siya	1	Bengal	Cat	1	NULL

8 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.

```
mysql> SELECT DATE_FORMAT(DonationDate, "%M %Y") AS MonthYear, SUM(DonationAmount) AS TotalDonationAmount
-> FROM Donations
-> GROUP BY DATE_FORMAT(DonationDate, "%Y-%m"), DonationDate
-> ORDER BY MIN(DonationDate);
```

MonthYear	TotalDonationAmount
January 2021	75.00
October 2021	NULL
November 2022	100.00
December 2023	200.00
December 2023	50.00
December 2023	NULL
December 2023	NULL
December 2023	120.00
December 2023	90.00
December 2023	NULL

10 rows in set (0.01 sec)

11. select distinct breed pets age between 1 and 3 or greater than 5

```
mysql> select distinct Breed ,Age from pets where (Age between 1 and 3) or(Age>5);
```

Breed	Age
Labrador Retriever	3
Golden Retriever	2
German Shepherd	1
Domestic Shorthair	2
Bengal	6
Beagle	2
Maine Coon	3
Bengal	1

8 rows in set (0.00 sec)

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

```

mysql> ALTER TABLE Pets
    -> ADD COLUMN ShelterID INT,
    -> ADD CONSTRAINT FK_ShelterID FOREIGN KEY (ShelterID) REFERENCES Shelters(ShelterID);
Query OK, 11 rows affected (0.11 sec)
Records: 11  Duplicates: 0  Warnings: 0

mysql> update pets set shelterid=1 where petsid=1;
ERROR 1054 (42S22): Unknown column 'petsid' in 'where clause'
mysql> update pets set shelterid=1 where petid=1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update pets set shelterid=1 where petid=2;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update pets set shelterid=2 where petid=3;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update pets set shelterid=4 where petid=4;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update pets set shelterid=4 where petid=5;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update pets set shelterid=6 where petid=6;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT P.Name AS PetName, P.Type AS PetType, S.Name AS ShelterName
    -> FROM Pets P
    -> JOIN Shelters S ON P.ShelterID = S.ShelterID
    -> WHERE P.AvailableForAdoption = 1;
+-----+-----+-----+
| PetName | PetType | ShelterName |
+-----+-----+-----+
| Whiskers | Cat     | Paw Bestfriend |
| Max      | Dog     | Bestfriend      |
| Fluffy   | Cat     | Safe Haven Shelter |
| Rocky    | Dog     | Safe Haven Shelter |
| Oreo     | Cat     | Paw Prints Shelter |
+-----+-----+-----+
5 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(P.ParticipantID) AS TotalParticipants
-> FROM Participants P
-> JOIN AdoptionEvents AE ON P.EventID = AE.EventID
-> JOIN Shelters S ON AE.Location = S.Location
-> WHERE S.Location = 'Chennai';
```

```
+-----+
| TotalParticipants |
+-----+
|                0 |
+-----+
1 row in set (0.02 sec)
```

14. List of unique breed that are aged between 1 and 5 years

```
mysql> select distinct(breed) ,Age from pets where (age between 1 and 5);
```

```
+-----+-----+
| breed          | Age |
+-----+-----+
| Labrador Retriever | 3   |
| Siamese         | 5   |
| Golden Retriever  | 2   |
| Persian         | 4   |
| German Shepherd  | 1   |
| Domestic Shorthair | 2   |
| Beagle          | 2   |
| Maine Coon       | 3   |
| Dachshund        | 4   |
| Bengal          | 1   |
+-----+-----+
10 rows in set (0.00 sec)
```

15. Find the pets that have not been adopted

```
mysql> select * from pets where AvailableForAdoption = 1;
```

PetId	Name	Age	Breed	Type	AvailableForAdoption	OwnerId
2	Whiskers	5	Siamese	Cat	1	NULL
3	Max	2	Golden Retriever	Dog	1	NULL
4	Fluffy	4	Persian	Cat	1	NULL
5	Rocky	1	German Shepherd	Dog	1	NULL
6	Oreo	2	Domestic Shorthair	Cat	1	NULL
8	Charlie	2	Beagle	Dog	1	NULL
9	Simba	3	Maine Coon	Cat	1	NULL
11	Siya	1	Bengal	Cat	1	NULL

```
8 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.

```
mysql> SELECT DISTINCT P.ParticipantName
-> FROM Participants P
-> JOIN Pets ON Pets.OwnerId = P.ParticipantId
-> WHERE Pets.AvailableForAdoption = 0;
Empty set (0.00 sec)
```

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

```
mysql> SELECT S.Name AS ShelterName, COUNT(P.PetId) AS AvailablePetsCount
-> FROM Shelters S
-> LEFT JOIN Pets P ON S.ShelterID = P.ShelterID
-> WHERE P.AvailableForAdoption = 1 OR P.AvailableForAdoption IS NULL
-> GROUP BY S.Name;
```

ShelterName	AvailablePetsCount
Paw Bestfriend	1
Bestfriend	1
Companion Care Shelter	0
Safe Haven Shelter	2
Furry Friends Refuge	0
Paw Prints Shelter	1
Rescue Haven	0
Loving Paws Sanctuary	0
Happy Tails Shelter	0
Safe Haven Rescue	0

10 rows in set (0.00 sec)

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

```
mysql> SELECT
-> P1.PetID AS Pet1ID, P1.Name AS Pet1Name, P1.Breed AS Pet1Breed,
-> P2.PetID AS Pet2ID, P2.Name AS Pet2Name, P2.Breed AS Pet2Breed,
-> S.Name AS ShelterName
-> FROM Pets P1
-> JOIN Pets P2 ON P1.ShelterID = P2.ShelterID AND P1.Breed = P2.Breed AND P1.PetID < P2.PetID
-> JOIN Shelters S ON P1.ShelterID = S.ShelterID
-> WHERE P1.AvailableForAdoption = 1 AND P2.AvailableForAdoption = 1
-> ORDER BY P1.ShelterID, P1.Breed, P1.PetID, P2.PetID;
Empty set (0.00 sec)
```

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

```
mysql> SELECT DISTINCT S.Name AS ShelterName, AE.EventName AS AdoptionEvent
-> FROM Shelters S
-> CROSS JOIN AdoptionEvents AE;
```

ShelterName	AdoptionEvent
Safe Haven Rescue	Pet Adoption Day
Happy Tails Shelter	Pet Adoption Day
Loving Paws Sanctuary	Pet Adoption Day
Rescue Haven	Pet Adoption Day
Paw Prints Shelter	Pet Adoption Day
Furry Friends Refuge	Pet Adoption Day
Safe Haven Shelter	Pet Adoption Day
Companion Care Shelter	Pet Adoption Day
Bestfriend	Pet Adoption Day
Paw Bestfriend	Pet Adoption Day
Safe Haven Rescue	Furry Friends Adoption Event
Happy Tails Shelter	Furry Friends Adoption Event
Loving Paws Sanctuary	Furry Friends Adoption Event
Rescue Haven	Furry Friends Adoption Event
Paw Prints Shelter	Furry Friends Adoption Event
Furry Friends Refuge	Furry Friends Adoption Event
Safe Haven Shelter	Furry Friends Adoption Event
Companion Care Shelter	Furry Friends Adoption Event
Bestfriend	Furry Friends Adoption Event
Paw Bestfriend	Furry Friends Adoption Event
Safe Haven Rescue	Rescue Fest
Happy Tails Shelter	Rescue Fest
Loving Paws Sanctuary	Rescue Fest
Rescue Haven	Rescue Fest
Paw Prints Shelter	Rescue Fest
Furry Friends Refuge	Rescue Fest
Safe Haven Shelter	Rescue Fest
Companion Care Shelter	Rescue Fest
Bestfriend	Rescue Fest
Paw Bestfriend	Rescue Fest
Safe Haven Rescue	Paws for Love
Happy Tails Shelter	Paws for Love
Loving Paws Sanctuary	Paws for Love
Rescue Haven	Paws for Love
Paw Prints Shelter	Paws for Love
Furry Friends Refuge	Paws for Love
Safe Haven Shelter	Paws for Love
Companion Care Shelter	Paws for Love
Bestfriend	Paws for Love
Paw Bestfriend	Paws for Love
Safe Haven Rescue	Home for the Holidays
Happy Tails Shelter	Home for the Holidays
Loving Paws Sanctuary	Home for the Holidays
Rescue Haven	Home for the Holidays
Paw Prints Shelter	Home for the Holidays
Furry Friends Refuge	Home for the Holidays

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

ERROR 1064 (42000): You have an error in your SQL syntax; check

```
mysql> SELECT ShelterID, COUNT(*) AS AdoptedPetsCount
-> FROM Pets
-> WHERE AvailableForAdoption = 1
-> GROUP BY ShelterID
-> ORDER BY AdoptedPetsCount DESC
-> LIMIT 1;
```

```
+-----+-----+
| ShelterID | AdoptedPetsCount |
+-----+-----+
|          4 |                2 |
+-----+-----+
```

1 row in set (0.00 sec)