

Coding Challenge 1

Creating Database:

```
mysql> Create database pet
      -> ;
Query OK, 1 row affected (0.01 sec)

mysql> use pet
Database changed
```

Creating Tables:

```
mysql> CREATE TABLE Pets (  
->     PetID INT PRIMARY KEY,  
->     Name VARCHAR(255),  
->     Age INT,  
->     Breed VARCHAR(255),  
->     Type VARCHAR(255),  
->     AvailableForAdoption BIT  
-> );  
Query OK, 0 rows affected (0.04 sec)  
  
mysql>  
mysql> -- Table: Shelters  
mysql> CREATE TABLE Shelters (  
->     ShelterID INT PRIMARY KEY,  
->     Name VARCHAR(255),  
->     Location VARCHAR(255)  
-> );  
Query OK, 0 rows affected (0.04 sec)  
  
mysql>  
mysql> -- Table: Donations  
mysql> CREATE TABLE Donations (  
->     DonationID INT PRIMARY KEY,  
->     DonorName VARCHAR(255),  
->     DonationType VARCHAR(255),  
->     DonationAmount DECIMAL(10, 2),  
->     DonationItem VARCHAR(255),  
->     DonationDate DATETIME  
-> );  
Query OK, 0 rows affected (0.04 sec)  
  
mysql>  
mysql> -- Table: AdoptionEvents  
mysql> CREATE TABLE AdoptionEvents (  
->     EventID INT PRIMARY KEY,  
->     EventName VARCHAR(255),  
->     EventDate DATETIME,  
->     Location VARCHAR(255)  
-> );  
Query OK, 0 rows affected (0.04 sec)
```

```

mysql> -- Table: Participants
mysql> CREATE TABLE Participants (
  ->     ParticipantID INT PRIMARY KEY,
  ->     ParticipantName VARCHAR(255),
  ->     ParticipantType VARCHAR(255),
  ->     EventID INT,
  ->     FOREIGN KEY (EventID) REFERENCES AdoptionEvents(EventID)
  -> );
Query OK, 0 rows affected (0.05 sec)

```

Inserting Values:

```

mysql> INSERT INTO Pets (PetID, Name, Age, Breed, Type, AvailableForAdoption)
  -> VALUES
  -> (1, 'Raja', 2, 'Labrador', 'Dog', 1),
  -> (2, 'Chinnu', 1, 'Persian', 'Cat', 1),
  -> (3, 'Karthik', 3, 'German Shepherd', 'Dog', 0),
  -> (4, 'Meera', 2, 'Siamese', 'Cat', 1),
  -> (5, 'Arjun', 1, 'Golden Retriever', 'Dog', 1),
  -> (6, 'Ananya', 2, 'Ragdoll', 'Cat', 0),
  -> (7, 'Krishna', 3, 'Beagle', 'Dog', 1),
  -> (8, 'Lakshmi', 1, 'Bengal', 'Cat', 1),
  -> (9, 'Vijay', 2, 'Poodle', 'Dog', 0),
  -> (10, 'Radha', 1, 'Siberian Husky', 'Dog', 1);
Query OK, 10 rows affected (0.01 sec)

```

```

mysql> -- Insert 10 rows into Shelters table
mysql> INSERT INTO Shelters (ShelterID, Name, Location)
  -> VALUES
  -> (1, 'Saranya Animal Shelter', 'Chennai, Tamil Nadu'),
  -> (2, 'Paws of Love Shelter', 'Hyderabad, Telangana'),
  -> (3, 'Graceful Paws Rescue', 'Bangalore, Karnataka'),
  -> (4, 'Hopeful Tails Shelter', 'Kochi, Kerala'),
  -> (5, 'Divine Furry Haven', 'Coimbatore, Tamil Nadu'),
  -> (6, 'Whiskers and Wags Haven', 'Visakhapatnam, Andhra Pradesh'),
  -> (7, 'Joyful Paws Sanctuary', 'Mysuru, Karnataka'),
  -> (8, 'Heavenly Tails Refuge', 'Thiruvananthapuram, Kerala'),
  -> (9, 'Sunshine Pet Haven', 'Vijayawada, Andhra Pradesh'),
  -> (10, 'Cuddly Companions Center', 'Madurai, Tamil Nadu');
Query OK, 10 rows affected (0.01 sec)
Records: 10  Duplicates: 0  Warnings: 0

```

```

mysql>
mysql> -- Insert 10 rows into Donations table
mysql> INSERT INTO Donations (DonationID, DonorName, DonationType, DonationAmount, DonationItem, DonationDate)
  -> VALUES
  -> (1, 'Suresh', 'Cash', 100.00, NULL, '2023-01-15 08:30:00'),
  -> (2, 'Deepa', 'Item', NULL, 'Pet Food', '2023-02-20 12:45:00'),
  -> (3, 'Rajesh', 'Cash', 150.50, NULL, '2023-03-10 15:20:00'),
  -> (4, 'Anusha', 'Item', NULL, 'Blankets', '2023-04-05 10:10:00'),
  -> (5, 'Prakash', 'Cash', 200.00, NULL, '2023-05-18 14:00:00'),
  -> (6, 'Shalini', 'Item', NULL, 'Toys', '2023-06-22 09:30:00'),
  -> (7, 'Ganesh', 'Cash', 120.75, NULL, '2023-07-07 11:45:00'),
  -> (8, 'Nithya', 'Item', NULL, 'Cat Litter', '2023-08-12 17:15:00'),
  -> (9, 'Vikram', 'Cash', 180.25, NULL, '2023-09-25 13:40:00'),
  -> (10, 'Priya', 'Item', NULL, 'Dog Shampoo', '2023-10-30 16:50:00');
Query OK, 10 rows affected (0.01 sec)
Records: 10  Duplicates: 0  Warnings: 0

```

```

mysql> -- Insert 10 rows into AdoptionEvents table
mysql> INSERT INTO AdoptionEvents (EventID, EventName, EventDate, Location)
-> VALUES
-> (1, 'Pawsome Adoption Day', '2023-02-05 10:00:00', 'Chennai, Tamil Nadu'),
-> (2, 'Furry Friends Fiesta', '2023-03-15 11:30:00', 'Hyderabad, Telangana'),
-> (3, 'Whiskers Wonderland', '2023-04-20 13:00:00', 'Bangalore, Karnataka'),
-> (4, 'Tail Wagging Extravaganza', '2023-05-25 14:45:00', 'Kochi, Kerala'),
-> (5, 'Meow Mania', '2023-06-10 16:15:00', 'Coimbatore, Tamil Nadu'),
-> (6, 'Joyful Jamboree', '2023-07-15 17:30:00', 'Visakhapatnam, Andhra Pradesh'),
-> (7, 'Hearts and Paws Gala', '2023-08-20 18:45:00', 'Mysuru, Karnataka'),
-> (8, 'Purr-fect Adoption Fair', '2023-09-10 20:00:00', 'Thiruvananthapuram, Kerala'),
-> (9, 'Sunshine Adoption Spectacle', '2023-10-05 21:15:00', 'Vijayawada, Andhra Pradesh'),
-> (10, 'Cuddles and Connections', '2023-11-10 22:30:00', 'Madurai, Tamil Nadu');
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql>
mysql> -- Insert 10 rows into Participants table
mysql> INSERT INTO Participants (ParticipantID, ParticipantName, ParticipantType, EventID)
-> VALUES
-> (1, 'Saranya Animal Shelter', 'Shelter', 1),
-> (2, 'Paws of Love Shelter', 'Shelter', 2),
-> (3, 'Graceful Paws Rescue', 'Shelter', 3),
-> (4, 'Hopeful Tails Shelter', 'Shelter', 4),
-> (5, 'Divine Furry Haven', 'Shelter', 5),
-> (6, 'Whiskers and Wags Haven', 'Shelter', 6),
-> (7, 'Joyful Paws Sanctuary', 'Shelter', 7),
-> (8, 'Heavenly Tails Refuge', 'Shelter', 8),
-> (9, 'Sunshine Pet Haven', 'Shelter', 9),
-> (10, 'Cuddly Companions Center', 'Shelter', 10);
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0

```

Tasks:

1. Retrieve a list of available pets

```

mysql> SELECT Name, Age, Breed, Type
-> FROM Pets
-> WHERE AvailableForAdoption = 1;
+-----+-----+-----+-----+
| Name   | Age  | Breed           | Type  |
+-----+-----+-----+-----+
| Raja   | 2    | Labrador        | Dog   |
| Chinnu | 1    | Persian         | Cat   |
| Meera  | 2    | Siamese         | Cat   |
| Arjun  | 1    | Golden Retriever | Dog   |
| Krishna | 3    | Beagle          | Dog   |
| Lakshmi | 1    | Bengal          | Cat   |
| Radha  | 1    | Siberian Husky  | Dog   |
+-----+-----+-----+-----+
7 rows in set (0.00 sec)

```

2. Retrieve names of participants for a specific adoption event

```
mysql> SELECT p.ParticipantName, p.ParticipantType
-> FROM Participants p
-> WHERE p.EventID = 1;
+-----+-----+
| ParticipantName | ParticipantType |
+-----+-----+
| Saranya Animal Shelter | Shelter |
+-----+-----+
1 row in set (0.00 sec)
```

3. . Retrieve total donation amount for each shelter

```
mysql> CREATE PROCEDURE UpdateShelterInfo
-> @ShelterID INT,
-> @NewName VARCHAR(255),
-> @NewLocation VARCHAR(255)
-> AS
-> BEGIN
-> UPDATE Shelters
-> SET Name = @NewName,
-> Location = @NewLocation
-> WHERE ShelterID = @ShelterID;
```

4. Retrieve total donation amount for each month and year

```
mysql> SELECT FORMAT(DonationDate, 'MMMM yyyy') AS MonthYear, COALESCE(SUM(DonationAmount), 0) AS TotalDonationAmount
-> FROM Donations
-> GROUP BY FORMAT(DonationDate, 'MMMM yyyy');
+-----+-----+
| MonthYear | TotalDonationAmount |
+-----+-----+
| 20,230,115,083,000 | 100.00 |
| 20,230,220,124,500 | 0.00 |
| 20,230,310,152,000 | 150.50 |
| 20,230,405,101,000 | 0.00 |
| 20,230,518,140,000 | 200.00 |
| 20,230,622,093,000 | 0.00 |
| 20,230,707,114,500 | 120.75 |
| 20,230,812,171,500 | 0.00 |
| 20,230,925,134,000 | 180.25 |
| 20,231,030,165,000 | 0.00 |
+-----+-----+
10 rows in set, 20 warnings (0.00 sec)
```

6. Retrieve a list of available pets

```
mysql> SELECT Name, Age, Breed, Type
-> FROM Pets
-> WHERE AvailableForAdoption =1;
```

Name	Age	Breed	Type
Raja	2	Labrador	Dog
Chinnu	1	Persian	Cat
Meera	2	Siamese	Cat
Arjun	1	Golden Retriever	Dog
Krishna	3	Beagle	Dog
Lakshmi	1	Bengal	Cat
Radha	1	Siberian Husky	Dog

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

7. Retrieve total donation amount for each month and year

```
mysql> SELECT FORMAT(DonationDate, 'MMMM yyyy') AS MonthYear, COALESCE(SUM(DonationAmount), 0) AS TotalDonationAmount
-> FROM Donations
-> GROUP BY FORMAT(DonationDate, 'MMMM yyyy');
```

MonthYear	TotalDonationAmount
20,230,115,083,000	100.00
20,230,220,124,500	0.00
20,230,310,152,000	150.50
20,230,405,101,000	0.00
20,230,518,140,000	200.00
20,230,622,093,000	0.00
20,230,707,114,500	120.75
20,230,812,171,500	0.00
20,230,925,134,000	180.25
20,231,030,165,000	0.00

```
10 rows in set, 20 warnings (0.00 sec)
```

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

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

Breed
Labrador
Persian
German Shepherd
Siamese
Golden Retriever
Ragdoll
Beagle
Bengal
Poodle
Siberian Husky

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

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

```
mysql> SELECT DISTINCT Breed
-> FROM Pets
-> WHERE Age BETWEEN 1 AND 5;
```

Breed
Labrador
Persian
German Shepherd
Siamese
Golden Retriever
Ragdoll
Beagle
Bengal
Poodle

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

```
mysql> SELECT p.Name AS PetName, p.Type, p.Breed, s.Name AS ShelterName
-> FROM Pets p
-> JOIN Shelters s ON p.petID= s.ShelterID
-> WHERE p.AvailableForAdoption = 1;
```

PetName	Type	Breed	ShelterName
Raja	Dog	Labrador	Saranya Animal Shelter
Chinnu	Cat	Persian	Paws of Love Shelter
Meera	Cat	Siamese	Hopeful Tails Shelter
Arjun	Dog	Golden Retriever	Divine Furry Haven
Krishna	Dog	Beagle	Joyful Paws Sanctuary
Lakshmi	Cat	Bengal	Heavenly Tails Refuge
Radha	Dog	Siberian Husky	Cuddly Companions Center

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

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

```
mysql> SELECT COUNT(DISTINCT ParticipantID) AS TotalParticipants
-> FROM Participants p
-> JOIN Shelters s ON p.ParticipantID = s.ShelterID
-> JOIN AdoptionEvents ae ON p.EventID = ae.EventID
-> WHERE s.Location LIKE '%Chennai%';
```

TotalParticipants
1

```
1 row in set (0.00 sec)
```

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

```
mysql> SELECT DISTINCT Breed
-> FROM Pets
-> WHERE Age BETWEEN 1 AND 5;
```

Breed
Labrador
Persian
German Shepherd
Siamese
Golden Retriever
Ragdoll
Beagle
Bengal
Poodle
Siberian Husky

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

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

```
mysql> SELECT *
-> FROM Pets
-> WHERE PetID NOT IN (SELECT PetID FROM Pets);
```

```
Empty set (0.00 sec)
```


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

```
mysql> SELECT p.Name AS PetName, u.UserName AS AdopterName
-> FROM Adoptions a
-> JOIN Pets p ON a.PetID = p.PetID
-> JOIN Users u ON a.UserID = u.UserID;
```

16. 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.petID AND p.AvailableForAdoption = 1
-> GROUP BY s.ShelterID, s.Name;
```

ShelterName	AvailablePetsCount
Saranya Animal Shelter	1
Paws of Love Shelter	1
Graceful Paws Rescue	0
Hopeful Tails Shelter	1
Divine Furry Haven	1
Whiskers and Wags Haven	0
Joyful Paws Sanctuary	1
Heavenly Tails Refuge	1
Sunshine Pet Haven	0
Cuddly Companions Center	1

10 rows in set (0.00 sec)

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

```
mysql> SELECT p1.PetID AS PetID1, p1.Name AS PetName1, p1.Breed AS Breed,
-> p2.PetID AS PetID2, p2.Name AS PetName2
-> FROM Pets p1
-> JOIN Pets p2 ON p1.petID = p2.petID AND p1.PetID < p2.PetID
-> WHERE p1.Breed = p2.Breed;
Empty set (0.00 sec)
```

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

```
mysql> SELECT TOP s.Name AS ShelterName, COUNT(a.PetID) AS AdoptedPetsCount
-> FROM Shelters s
-> JOIN Pets p ON s.ShelterID = p.ShelterID
-> JOIN Adoptions a ON p.PetID = a.PetID
-> GROUP BY s.ShelterID, s.Name
-> ORDER BY AdoptedPetsCount DESC;
```

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

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

ShelterID	ShelterName	EventID	EventName
10	Cuddly Companions Center	1	Pawsome Adoption Day
9	Sunshine Pet Haven	1	Pawsome Adoption Day
8	Heavenly Tails Refuge	1	Pawsome Adoption Day
7	Joyful Paws Sanctuary	1	Pawsome Adoption Day
6	Whiskers and Wags Haven	1	Pawsome Adoption Day
5	Divine Furry Haven	1	Pawsome Adoption Day
4	Hopeful Tails Shelter	1	Pawsome Adoption Day
3	Graceful Paws Rescue	1	Pawsome Adoption Day
2	Paws of Love Shelter	1	Pawsome Adoption Day
1	Saranya Animal Shelter	1	Pawsome Adoption Day
10	Cuddly Companions Center	2	Furry Friends Fiesta
9	Sunshine Pet Haven	2	Furry Friends Fiesta
8	Heavenly Tails Refuge	2	Furry Friends Fiesta
7	Joyful Paws Sanctuary	2	Furry Friends Fiesta
6	Whiskers and Wags Haven	2	Furry Friends Fiesta
5	Divine Furry Haven	2	Furry Friends Fiesta
4	Hopeful Tails Shelter	2	Furry Friends Fiesta
3	Graceful Paws Rescue	2	Furry Friends Fiesta
2	Paws of Love Shelter	2	Furry Friends Fiesta
1	Saranya Animal Shelter	2	Furry Friends Fiesta
10	Cuddly Companions Center	3	Whiskers Wonderland
9	Sunshine Pet Haven	3	Whiskers Wonderland
8	Heavenly Tails Refuge	3	Whiskers Wonderland
7	Joyful Paws Sanctuary	3	Whiskers Wonderland
6	Whiskers and Wags Haven	3	Whiskers Wonderland
5	Divine Furry Haven	3	Whiskers Wonderland
4	Hopeful Tails Shelter	3	Whiskers Wonderland
3	Graceful Paws Rescue	3	Whiskers Wonderland
2	Paws of Love Shelter	3	Whiskers Wonderland
1	Saranya Animal Shelter	3	Whiskers Wonderland
10	Cuddly Companions Center	4	Tail Wagging Extravaganza
9	Sunshine Pet Haven	4	Tail Wagging Extravaganza
8	Heavenly Tails Refuge	4	Tail Wagging Extravaganza