CODING CHALLENGES 1

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 (
          PetID INT PRIMARY KEY AUTO INCREMENT,
           Name VARCHAR(50) NOT NULL,
196
           Age INT NOT NULL,
           Breed VARCHAR(50),
198
          Type VARCHAR(50) NOT NULL,
           AvailableForAdoption TINYINT(1) NOT NULL DEFAULT 0
     );
201
202
       -- Shelters table
203 • ⊖ CREATE TABLE Shelters (
           ShelterID INT PRIMARY KEY AUTO_INCREMENT,
           Name VARCHAR(100) NOT NULL,
206
           Location VARCHAR(255) NOT NULL
207
      -- Donations table
209 • ⊖ CREATE TABLE Donations (
        DonationID INT PRIMARY KEY AUTO_INCREMENT,
          DonorName VARCHAR(100) NOT NULL,
211
212
         DonationType VARCHAR(50) NOT NULL,
213
          DonationAmount DECIMAL(10,2) DEFAULT NULL,
          DonationItem VARCHAR(255) DEFAULT NULL,
214
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 (
            ParticipantID INT PRIMARY KEY AUTO_INCREMENT,
229
230
            ParticipantName VARCHAR(100) NOT NULL,
231
            ParticipantType VARCHAR(50) NOT NULL,
232
            EventID INT,
            FOREIGN KEY (EventID) REFERENCES AdoptionEvents(EventID)
233
234
```

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

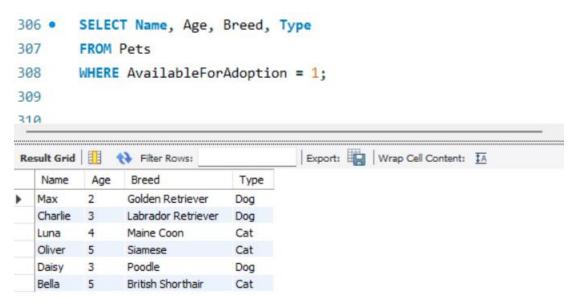
```
ALTER TABLE Pets
ADD CONSTRAINT Available_Check CHECK (AvailableForAdoption IN (0,1));

ALTER TABLE Donations

ADD CONSTRAINT DonationType_Check CHECK (
DonationType IN ('Cash', 'Item')

);
```

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.

```
SELECT ParticipantName, ParticipantType
310 •
311
        FROM Participants
312
        JOIN AdoptionEvents ON Participants. EventID = AdoptionEvents. EventID
        WHERE AdoptionEvents.EventID = 2:
313
31/
Result Grid
                                        Export: Wrap Cell Content: IA
             Filter Rows:
   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)
)

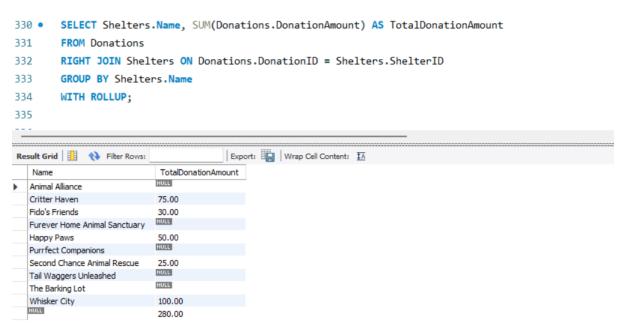
BEGIN
    UPDATE Shelters
    SET Name = newName, Location = newLocation
    WHERE ShelterID = shelterID;

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

END IF;

END;
```

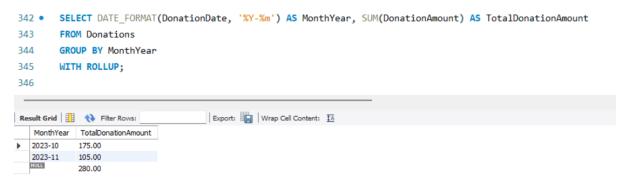
8. Write an SQL query that calculates and retrieves the total donation amount for each shelter (by shelter name) from the "Donations" table. The result should include the shelter name and the total donation amount. Ensure that the query handles cases where a shelter has received no donations.



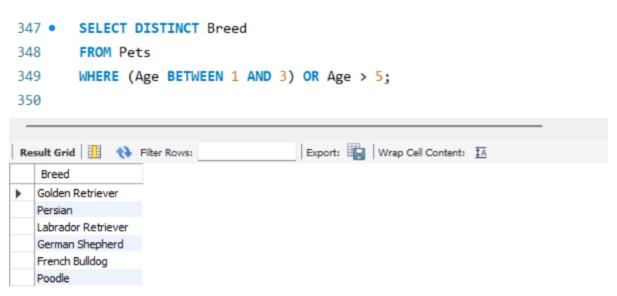
9. Write an SQL query that retrieves the names of pets from the "Pets" table that do not have an owner (i.e., where "OwnerID" is null). Include the pet's name, age, breed, and type in the result set.

```
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



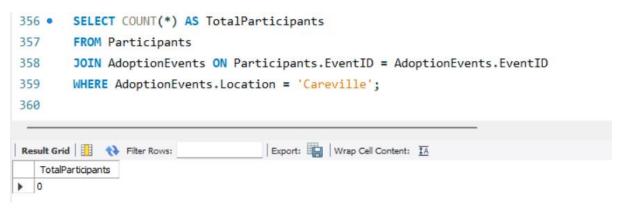
11. Retrieve a list of distinct breeds for all pets that are either aged between 1 and 3 years or older than 5 years.



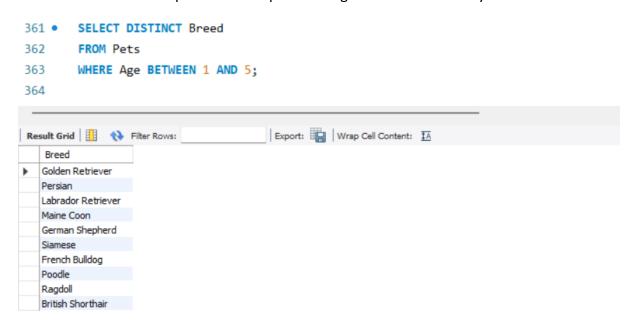
12. Retrieve a list of pets and their respective shelters where the pets are currently available for adoption.

```
351 • SELECT Pets.*, Shelters.Name AS ShelterName
352
        FROM Pets
        JOIN Shelters ON Pets.PetID = Shelters.ShelterID
353
354
        WHERE AvailableForAdoption = 1;
355
                                     Export: Wrap Cell Content: IA
Type AvailableForAdoption ShelterName
   PetID Name
              Age
               2
                    Golden Retriever
                                   Dog
      Charlie 3 Labrador Retriever Dog 1
                                                        Second Chance Animal Rescue
  3
                                  Cat 1
                                                        Tail Waggers Unleashed
        Luna
                    Maine Coon
                                   Cat 1
        Oliver 5 Siamese
                                                        The Barking Lot
        Daisy 3
                    Poodle
                                   Dog
                                                        Animal Alliance
  10
        Bella 5
                   British Shorthair
                                  Cat 1
                                                    1 | Purrfect Companions
```

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.

```
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
         CROSS JOIN AdoptionEvents;
394
Export: Wrap Cell Content: TA
   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
  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...
                  Halloween Spooktac...
   Critter Haven
   The Barking Lot
                             Halloween Spooktac...
                  Halloween Spooktac...
  Whisker City
   Tail Waggers Unleashed
                            Halloween Spooktac...
   Second Chance Animal Rescue Halloween Spooktac...
  Furever Home Animal Sanctuary Halloween Spooktac...
                 Halloween Spooktac...
  Happy Paws
  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;
```