Coding Challenges - PetPals, The Pet Adoption Platform

Tasks:

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

```
create database PetPals;
```

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

```
create table Pets( Petid int,
    Name varchar(255),
    Age int,
    Breed varchar(255),
    Type varchar(50),
    AvailableForAdoption bit,
    primary key(petid)
    );
```

```
create table Shelters(
ShelterID int,
Name varchar(255),
Location varchar(255),
primary key(shelterid));
```

```
create table Donations (
    Donationid int,
    DonorName varchar(255),
    DonationType varchar(50),
    DonationAmount decimal(10, 2),
    DonationItem varchar(255),
    DonationDate datetime,
    primary key(donationid)
);
```

```
create table AdoptionEvents (
    EventID int,
    EventName varchar(255),
    EventDate datetime,
    Location varchar(255),
    primary key(eventid)
);
```

```
create table Participants(
    ParticipantID int,
    ParticipantName varchar(255),
    ParticipantType varchar(50),
    EventID int,
    primary key(participantid),
    foreign key (EventID) references AdoptionEvents(EventID)
);
```

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.

For database -

```
create database if not exists petpals;
```

For tables -

```
create table if not exists Pets( Petid int,
Name varchar(255),
Age int,
Breed varchar(255),
Type varchar(50),
AvailableForAdoption bit,
primary key(petid)
);
```

*** Here I have taken “pets” table**

And we can do this in every tables

For error handling.

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.

Available pets

```
14 •    select name,age,breed,type from pets
15      where AvailableForAdoption = 1;
```

Result Grid | Filter Rows: | Export: | Wrap

name	age	breed	type
Tommy	4	golden retriever	Dog
Buddy	3	Labrador	Dog
Whiskers	2	Siamese	Cat
Fluffy	1	Persian	Cat
Milo	2	Beagle	Dog
Luna	1	Ragdoll	Cat
Whiskey	3	Scottish Fold	Cat
Charlie	4	Dachshund	Dog

Not Available pets

```
14 •    select name,age,breed,type from pets
15      where AvailableForAdoption = 0;
```

Result Grid | Filter Rows: | Export: | Wrap Cel

name	age	breed	type
Max	4	German Shepherd	Dog
Rocky	5	Boxer	Dog

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.

```
delimiter //
create procedure UpdateShelterInfo(in ShelterID int,in NewName varchar(255),in NewLocation varchar(255))

begin
    update Shelters
    set name = NewName, Location = NewLocation
    WHERE ShelterID = ShelterID;
end//
delimiter ;
```

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.

```
21 •    select name,age,breed,type from pets
22      where ownerid = null;
```

Result Grid | Filter Rows: | Export: | Wrap C

name	age	breed	type

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.

```
134 •   SELECT donationamount,date_format(donationdate, '%Y-%m') AS Ymdate
135     from donations
136     group by date_format(donationdate, '%Y-%m');
137
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

donationamount	Ymdate
100.00	2023-01
NULL	2023-02
50.00	2023-03
75.00	2023-04
NULL	2023-05
120.00	2023-06
NULL	2023-07
50.00	2023-08
NULL	2023-09
90.00	2023-10

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

```
14 •  select Breed from Pets
15    where (Age between 1 and 3) or (Age > 5);
```

Result Grid | Filter Rows: | Export: | Wrap Ce

Breed
Labrador
Siamese
Persian
Beagle
Ragdoll
Scottish Fold

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

```
140 •  select pets.name,shelters.name from pets
141    join shelters on pets.petid = shelters.petid
142    where pets.AvailableForAdoption = 1;
143
```

Result Grid | Filter Rows: | Export: | Wrap Cell Co

name	name
Tommy	Paws Haven
Buddy	Rescue Me Shelter
Whiskers	Forever Friends
Fluffy	Loving Paws Shelter
Milo	Safe Haven for Pets
Luna	Happy Tails Rescue
Whiskey	Caring Companions Shelter
Charlie	Sunshine Pet Sanctuary

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.

```
126 •   select distinct Breed FROM Pets
127     where Age between 1 and 5;
```

Result Grid | Filter Rows: | Export

Breed
golden retriever
Labrador
Siamese
German Shepherd
Persian
Beagle
Ragdoll
Boxer
Scottish Fold
Dachshund

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

```
221 •   select * from pets where petid in(select adoptedPetid from participants);
222
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

Petid	Name	Age	Breed	Type	AvailableForAdoption	OwnerID
1	Tommy	4	golden retriever	Dog	1	NULL
2	Buddy	3	Labrador	Dog	1	NULL
3	Whiskers	2	Siamese	Cat	1	NULL
5	Fluffy	1	Persian	Cat	1	NULL
6	Milo	2	Beagle	Dog	1	NULL
7	Luna	1	Ragdoll	Cat	1	NULL
9	Whiskey	3	Scottish Fold	Cat	1	NULL
10	Charlie	4	Dachshund	Dog	1	NULL
NULL	NULL	NULL	NULL	NULL	NULL	NULL

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.

```
select Shelters.name, AdoptionEvents.EventName
from Shelters
cross join AdoptionEvents;
```

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