**Assignment: SQL Database for Pet Adoption Platform**

**Instructions:**

* Submit your completed assignment via GitHub and share the repository link.
* Ensure that your SQL script handles errors such as duplicate tables or missing references.
* Use appropriate primary keys, foreign keys, and constraints for database integrity.

**Problem Statement**

You are required to design a database schema for a pet adoption platform called **PetCare**. This platform manages pets, shelters, donations, adoption events, and participants.

**Tasks**

**Database Initialization**

1. **SQL Schema Creation:**
   * Create a database schema for **PetCare**.
   * Define tables with attributes similar to the ones described below:
     + **Pets (PetID, Name, Age, Breed, Type, AvailableForAdoption)**
     + **Shelters (ShelterID, Name, Location)**
     + **Donations (DonationID, DonorName, DonationType, DonationAmount, DonationItem, DonationDate)**
     + **AdoptionEvents (EventID, EventName, EventDate, Location)**
     + **Participants (ParticipantID, ParticipantName, ParticipantType, EventID as Foreign Key)**
2. **Table Constraints:**
   * Define primary and foreign keys.
   * Set constraints for null values and unique attributes where applicable.
   * Ensure the script checks if tables exist before creating them.

**SQL Query Challenges**

1. **Retrieve Available Pets:**
   * Write an SQL query to list pets available for adoption.

select Name,Age,Breed from Pets where AvailableForAdoption=1;

* + Output should include the pet's **Name, Age, Breed, and Type**.

1. **Retrieve Event Participants:**
   * Write an SQL query to list **participant names and types** for a specific event based on EventID.

declare @EventId int=1;

select ParticipantName,ParticipantType from Participants where EventID=@EventId;

1. **Update Shelter Information (Stored Procedure):**
   * Create a stored procedure to update a shelter’s name and location.
   * The procedure should take ShelterID, NewName, and NewLocation as parameters.

go

create procedure UpdateShelterNameAndLocation

@ShelterId int,

@NewName varchar(100),

@NewLocation varchar(100)

as begin

update Shelters set Name=@NewName, Location=@NewLocation where ShelterID=@ShelterId;

end;

1. **Calculate Shelter Donations:**
   * Write an SQL query to calculate the **total donation amount per shelter**.
   * The output should include **Shelter Name and Total Donation Amount**.
2. **Retrieve Pets Without Owners:**
   * Write an SQL query to list all pets that do not have an owner (OwnerID IS NULL).

select PetID,Name from Pets where AvailableForAdoption=1;

1. **Monthly Donation Summary:**
   * Write an SQL query to retrieve **total donations per month and year**.

SELECT

YEAR(DonationDate) AS DonationYear,

MONTH(DonationDate) AS DonationMonth,

SUM(DonationAmount) AS TotalDonation

FROM Donations

GROUP BY YEAR(DonationDate), MONTH(DonationDate)

ORDER BY DonationYear DESC, DonationMonth DESC;

1. **Filter Pets by Age:**
   * Retrieve distinct pet breeds where pets are aged **between 1 and 3 years or older than 5 years**.

select PetID,Name from Pets where Age between 1 and 3 or Age>5;

1. **Pets and Their Shelters:**

* List all **pets and their respective shelters** where pets are available for adoption.

Select \* from Pets p join Shelters s on p.petID=s.ShelterID where p.AvailableForAdoption=1;

1. **Count Event Participants by City:**

* Find the total number of **participants in adoption events held in a specific city (e.g., Mumbai)**.

1. **Unique Breeds of Young Pets:**

* Retrieve unique pet breeds for pets aged between **1 and 5 years**.

1. **Find Pets Not Yet Adopted:**

* Retrieve a list of pets that **have not been adopted**.

1. **Retrieve Adopted Pets and Adopters:**

* Fetch the names of **adopted pets** along with their **adopter’s name**.

1. **Count Available Pets in Shelters:**

* List **all shelters** along with the **count of pets currently available for adoption** in each shelter.

1. **Find Matching Pet Pairs in Shelters:**

* List pairs of pets **from the same shelter** that have the **same breed**.

1. **Find All Shelter-Event Combinations:**

* Retrieve all possible **combinations of shelters and adoption events**.

1. **Identify the Most Successful Shelter:**

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

**Bonus Challenges**

1. **Trigger for Adoption Status Update:**

* Create a database **trigger** that updates a pet’s **AvailableForAdoption** status when it is adopted.

1. **Data Integrity Check:**

* Ensure that a pet cannot be adopted twice using a **constraint or validation trigger**.