Hexaware_Coding Assessment

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

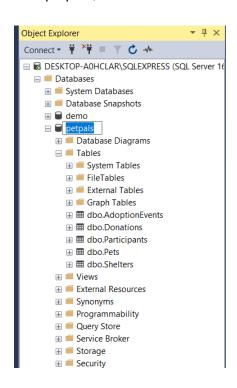
IF NOT EXISTS (SELECT * FROM sys.database WHERE Name = 'petpals')
BEGIN

CREATE DATABASE petpals;

END

GO

USE petpals;



- The script checks if a database named "petpals" exists or not and if not it creates the database.
- --2. Create tables for pets, shelters, donations, adoption events, and participants.
- -- Pets Table
- --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.

```
IF NOT EXISTS(SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME
= 'Pets')
BEGIN
       CREATE TABLE Pets (
              PetId INT PRIMARY KEY IDENTITY(1,1),
              Name VARCHAR(255) NOT NULL,
              Age INT CHECK(Age \geq= 0),
              Breed VARCHAR(255),
              Type VARCHAR(255),
              AvailableForAdoption BIT DEFAULT 1,
              ShelterID INT,
              FOREIGN KEY (ShelterID) REFERENCES Shelters(ShelterId) ON DELETE SET
NULL
      );
END
GO
INSERT INTO Pets (Name, Age, Breed, Type, AvailableForAdoption, ShelterID) VALUES
       ('Bruno', 3, 'Labrador', 'Dog', 1, 11),
       ('Fluffy', 2, 'Persian', 'Cat', 1, 12),
       ('Rex', 4, 'German Shepherd', 'Dog', 0, 13),
       ('Simba', 1, 'Golden Retriever', 'Dog', 1, 14),
       ('Tuffy', 5, 'Shih Tzu', 'Dog', 1, 15),
       ('Leo', 7, 'Siamese', 'Cat', 0, 16),
       ('Rocky', 3, 'Bulldog', 'Dog', 1, 17),
       ('Jelly', 2, 'Sphynx', 'Cat', 1, 18),
       ('Sheru', 8, 'Doberman', 'Dog', 0, 19),
       ('Melly', 1, 'Ragdoll', 'Cat', 1, 20);
```



```
CREATE TABLE Shelters (
       ShelterId INT PRIMARY KEY IDENTITY(11,1),
       ShelterName VARCHAR(255) NOT NULL,
       ShelterLocation VARCHAR(255) NOT NULL
      );
INSERT INTO Shelters (ShelterName, ShelterLocation) VALUES
       ('Happy Paws Shelter', 'Mumbai'),
       ('Companion Care Shelter', 'Chennai'),
       ('Pet Haven', 'Delhi'),
       ('Furry Friends Shelter', 'Kolkata'),
       ('Paw Prints Shelter', 'Bangalore'),
       ('Safe Shelter', 'Hyderabad'),
       ('Hope for Paws', 'Pune'),
       ('Animal Rescue Shelter', 'Jaipur'),
       ('Pet Paradise Shelter', 'Ahmedabad'),
       ('Forever Friends Shelter', 'Lucknow');
```

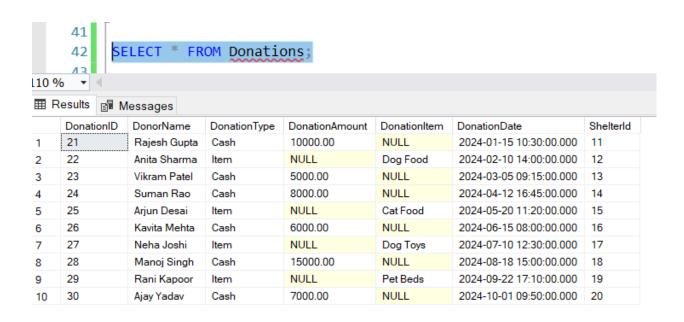
-- Shelters Table



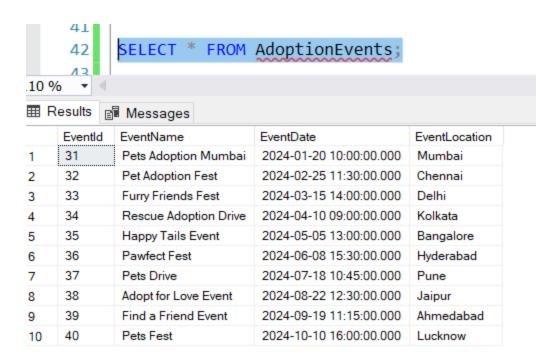
-- Donations Table CREATE TABLE Donations(DonationID INT PRIMARY KEY IDENTITY(21,1), DonorName VARCHAR(255), DonationType VARCHAR(50), DonationAmount DECIMAL(10,2), DonationItem VARCHAR(255), DonationDate DATETIME DEFAULT GETDATE(), ShelterId INT, FOREIGN KEY (ShelterId) REFERENCES Shelters(ShelterId) ON DELETE SET NULL);

INSERT INTO Donations(DonorName, DonationType, DonationAmount, DonationItem, DonationDate, ShelterID) VALUES

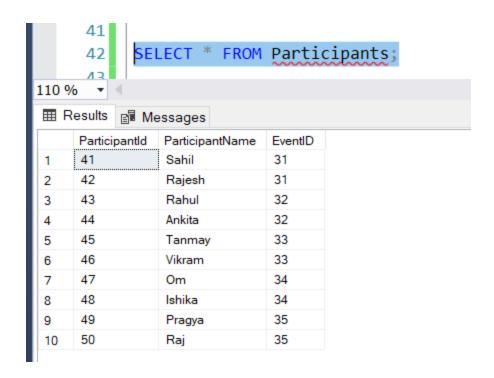
```
('Rajesh Gupta', 'Cash', 10000, NULL, '2024-01-15 10:30:00', 11), ('Anita Sharma', 'Item', NULL, 'Dog Food', '2024-02-10 14:00:00', 12), ('Vikram Patel', 'Cash', 5000, NULL, '2024-03-05 09:15:00', 13), ('Suman Rao', 'Cash', 8000, NULL, '2024-04-12 16:45:00', 14), ('Arjun Desai', 'Item', NULL, 'Cat Food', '2024-05-20 11:20:00', 15), ('Kavita Mehta', 'Cash', 6000, NULL, '2024-06-15 08:00:00', 16), ('Neha Joshi', 'Item', NULL, 'Dog Toys', '2024-07-10 12:30:00', 17), ('Manoj Singh', 'Cash', 15000, NULL, '2024-08-18 15:00:00', 18), ('Rani Kapoor', 'Item', NULL, 'Pet Beds', '2024-09-22 17:10:00', 19), ('Ajay Yadav', 'Cash', 7000, NULL, '2024-10-01 09:50:00', 20);
```




```
INSERT INTO AdoptionEvents(EventName, EventDate, EventLocation) VALUES ('Pets Adoption Mumbai', '2024-01-20 10:00:00', 'Mumbai'), ('Pet Adoption Fest', '2024-02-25 11:30:00', 'Chennai'), ('Furry Friends Fest', '2024-03-15 14:00:00', 'Delhi'), ('Rescue Adoption Drive', '2024-04-10 09:00:00', 'Kolkata'), ('Happy Tails Event', '2024-05-05 13:00:00', 'Bangalore'), ('Pawfect Fest', '2024-06-08 15:30:00', 'Hyderabad'), ('Pets Drive', '2024-07-18 10:45:00', 'Pune'), ('Adopt for Love Event', '2024-08-22 12:30:00', 'Jaipur'), ('Find a Friend Event', '2024-09-19 11:15:00', 'Ahmedabad'), ('Pets Fest', '2024-10-10 16:00:00', 'Lucknow');
```



-- Participants Table CREATE TABLE Participants(ParticipantId INT PRIMARY KEY IDENTITY(41,1), ParticipantName VARCHAR(255), EventID INT, FOREIGN KEY (EventID) REFERENCES AdoptionEvents(EventId) ON DELETE CASCADE);



SELECT * FROM Pets;

SELECT * FROM Shelters;

SELECT * FROM Donations;

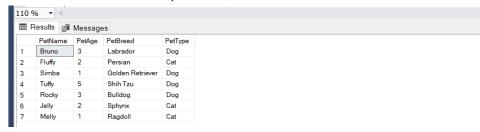
SELECT * FROM AdoptionEvents;

SELECT * FROM Participants;

- --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.

SELECT Name as PetName, Age as PetAge, Breed as PetBreed, Type as PetType FROM Pets

WHERE AvailableForAdoption = 1;



The WHERE clause ensures that only pets marked as available for adoption i.e.,
 AvailableForAdoption = 1 are included in the results.

- --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 P.ParticipantName, AE.EventId, AE.EventName, AE.EventLocation FROM Participants as P

JOIN AdoptionEvents as AE ON P.EventId = AE.EventId

WHERE AE.EventID = 31:

ш г	esults	Messa	ages		
	Partici	pantName	EventId	EventName	EventLocation
1	Sahil		31	Pets Adoption Mumbai	Mumbai
2	Rajes	h	31	Pets Adoption Mumbai	Mumbai

- Data Retrieval: The query selects participant names along with event details (EventId, EventName, EventLocation).
- Table Joins: It uses an inner join between the Participants and AdoptionEvents tables based on the EventId to link participants to their respective events.
- Parameter Filtering: The WHERE clause filters the results to include only participants registered for a specific event (EventID = 31).
- --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 UpdateShelterInfo

@ShelterId INT, @NewShelterName VARCHAR(255), @NewShelterLocation VARCHAR(255)

AS

П

BEGIN

END:

UPDATE Shelters
SET ShelterName = @NewShelterName,
ShelterLocation = @NewShelterLocation
WHERE ShelterId = @ShelterId

EXEC UpdateShelterInfo @ShelterId = 12, @NewShelterName = 'New Care Shelter', @NewShelterLocation = 'Aurangabad'; SELECT * FROM Shelters;

⊞ R	esults 📳	Messages		
	ShelterId	ShelterName	ShelterLocation	
1	11	Happy Paws Shelter	Mumbai	
2	12	New Care Shelter	Aurangabad	
3	13	Pet Haven	Delhi	
4	14	Furry Friends Shelter	Kolkata	
5	15	Paw Prints Shelter	Bangalore	
6	16	Safe Shelter	Hyderabad	
7	17	Hope for Paws	Pune	
8	18	Animal Rescue Shelter	Jaipur	
9	19	Pet Paradise Shelter	Ahmedabad	
10	20	Forever Friends Shelter	Lucknow	

- --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.

SELECT * FROM Shelters;

SELECT * FROM Donations;

SELECT S.ShelterName, SUM(D.DonationAmount) as TotalDonation FROM Shelters as S LEFT JOIN Donations as D ON S.ShelterId = D.ShelterID GROUP BY S.ShelterName;

⊞F	Results Messages	
	ShelterName	TotalDonation
1	Animal Rescue Shelter	15000.00
2	Forever Friends Shelter	7000.00
3	Furry Friends Shelter	8000.00
4	Happy Paws Shelter	10000.00
5	Hope for Paws	NULL
6	New Care Shelter	NULL
7	Paw Prints Shelter	NULL
8	Pet Haven	5000.00
9	Pet Paradise Shelter	NULL
10	Safe Shelter	6000.00

- --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.

SELECT * FROM Pets;

ALTER TABLE Pets ADD Ownerld INT;

UPDATE Pets SET OwnerId = 0 WHERE AvailableForAdoption = 0;

SELECT Name, Age, Breed, Type FROM Pets WHERE Ownerld IS NULL;

 	Results [₃ Me	ssages		
	Name	Age	Breed	Туре	
1	Bruno	3	Labrador	Dog	
2	Fluffy	2	Persian	Cat	
3	Simba	1	Golden Retriever	Dog	
4	Tuffy	5	Shih Tzu	Dog	
5	Rocky	3	Bulldog	Dog	
6	Jelly	2	Sphynx	Cat	
7	Melly	1	Ragdoll	Cat	

- --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 SELECT * FROM Donations;

SELECT

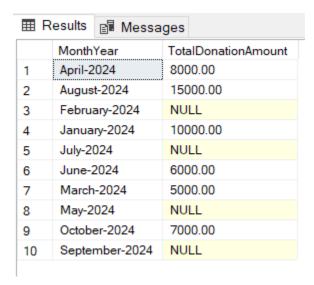
FORMAT(DonationDate, 'MMMM') + '-' + CAST(YEAR(DonationDate) AS VARCHAR) AS MonthYear.

SUM(DonationAmount) AS TotalDonationAmount

FROM

Donations

GROUP BY FORMAT(DonationDate, 'MMMM'), YEAR(DonationDate);



FORMAT - It formats the DonationDate to create a month-year string

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

--than 5 years.

SELECT * FROM Pets;

SELECT DISTINCT Breed, Type FROM Pets WHERE Age BETWEEN 1 AND 3 OR Age > 5;



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

--adoption.

SELECT P.Name AS PetName, P.Age AS PetAge, P.Breed AS PetBreed, S.ShelterName, S.ShelterLocation

FROM Pets P

JOIN Shelters S ON P.ShelterID = S.ShelterID

WHERE p.AvailableForAdoption = 1;

	Results 🗐	Message	es		
	PetName	PetAge	PetBreed	ShelterName	ShelterLocation
1	Bruno	3	Labrador	Happy Paws Shelter	Mumbai
2	Fluffy	2	Persian	New Care Shelter	Aurangabad
3	Simba	1	Golden Retriever	Furry Friends Shelter	Kolkata
4	Tuffy	5	Shih Tzu	Paw Prints Shelter	Bangalore
5	Rocky	3	Bulldog	Hope for Paws	Pune
6	Jelly	2	Sphynx	Animal Rescue Shelter	Jaipur
7	Melly	1	Ragdoll	Forever Friends Shelter	Lucknow

--13. Find the total number of participants in events organized by shelters located in specific city.

--Example: City=Chennai

SELECT * FROM Pets;

SELECT * FROM Shelters:

SELECT * FROM Donations;

SELECT * FROM AdoptionEvents;

SELECT * FROM Participants;

GROUP BY S. ShelterLocation;

SELECT COUNT(P.ParticipantId) AS TotalParticipants, S.ShelterLocation FROM Participants P
JOIN AdoptionEvents A ON P.EventID = A.EventId
JOIN Shelters s ON a.EventLocation = s.ShelterLocation
WHERE s.ShelterLocation = 'Mumbai'



--14. Retrieve a list of unique breeds for pets with ages between 1 and 5 years.

SELECT DISTINCT Breed, Type FROM Pets

WHERE AGE BETWEEN 1 AND 5;



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

SELECT * FROM PETS

WHERE AvailableForAdoption = 1;

Ⅲ F	Results	Mes	sages					
	PetId	Name	Age	Breed	Туре	AvailableForAdoption	ShelterID	Ownerlo
1	3	Bruno	3	Labrador	Dog	1	11	NULL
2	4	Fluffy	2	Persian	Cat	1	12	NULL
3	6	Simba	1	Golden Retriever	Dog	1	14	NULL
4	7	Tuffy	5	Shih Tzu	Dog	1	15	NULL
5	9	Rocky	3	Bulldog	Dog	1	17	NULL
6	10	Jelly	2	Sphynx	Cat	1	18	NULL
7	12	Melly	1	Ragdoll	Cat	1	20	NULL

--16. Retrieve the names of all adopted pets along with the adopter's name from the 'Adoption' and

--'User' tables.

CREATE TABLE Adoptions (

AdoptionId INT PRIMARY KEY IDENTITY(1,1),

PetId INT,

AdopterName VARCHAR(255),

AdoptionDate DATETIME DEFAULT GETDATE(),

ShelterId INT,

FOREIGN KEY (PetId) REFERENCES Pets(PetId) ON DELETE CASCADE,

FOREIGN KEY (ShelterId) REFERENCES Shelters(ShelterId) ON DELETE SET NULL);

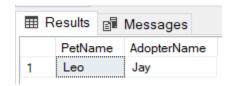
INSERT INTO Adoptions (PetId, AdopterName, AdoptionDate, ShelterId) VALUES

- (3, 'Amit', '2024-03-10 10:00:00', 13),
- (6, 'Sarvesh', '2024-06-20 12:30:00', 16),
- (8, 'Jay', '2024-08-15 14:00:00', 17),
- (9, 'Pratham', '2024-09-05 09:45:00', 18);

SELECT * FROM Adoptions;

⊞ R	Results 📳 [Messag	es		
	AdoptionId	PetId	AdopterName	AdoptionDate	ShelterId
1	1	3	Amit	2024-03-10 10:00:00.000	13
2	2	6	Sarvesh	2024-06-20 12:30:00.000	16
3	3	8	Jay	2024-08-15 14:00:00.000	17
4	4	9	Pratham	2024-09-05 09:45:00.000	18

SELECT P.Name AS PetName, A.AdopterName FROM Adoptions A JOIN Pets P ON A.PetId = P.PetId WHERE P.AvailableForAdoption = 0;



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

--shelter.

SELECT * FROM Shelters;

SELECT S.ShelterName, S.ShelterLocation, COUNT(P.PetId) AS AvailablePetsCount FROM Shelters S

LEFT JOIN Pets P ON S.ShelterId = P.ShelterId AND P.AvailableForAdoption = 1 GROUP BY S.ShelterId, ShelterName, S.ShelterLocation;

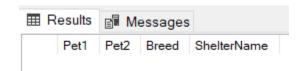


--18. Find pairs of pets from the same shelter that have the same breed.

SELECT P1.Name AS Pet1, P2.Name AS Pet2, P1.Breed, S.ShelterName FROM Pets P1

JOIN Pets P2 ON P1.Breed = P2.Breed AND P1.PetId != P2.PetId JOIN Shelters S ON P1.ShelterID = S.ShelterId;

-- Result is NA because no common pets in Database.



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

SELECT * FROM Shelters CROSS JOIN AdoptionEvents;



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

SELECT S.ShelterName, COUNT(A.PetId) AS NumberOfAdoptedPets FROM Adoptions A JOIN Shelters S ON A.ShelterId = S.ShelterId GROUP BY S.ShelterName ORDER BY NumberOfAdoptedPets DESC;

■ Results		Messages	
	Shelte	rName	NumberOfAdoptedPets
1	Anima	l Rescue Shelter	1
2	Hope	for Paws	1
3	Pet Ha	aven	1
4	Safe S	Shelter	1