Project Report

Project Title: Pet Adoption System

Course Title: Database Management System Lab

Course Code: CSE 2424

Semester: 4th

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1. Abstract

This project involves the design and implementation of a relational database for a Pet Adoption System. The system stores information about pets, adopters, shelters, visits, and adoption records. Its objective is to maintain an organized structure of pet profiles and manage adoption and visit activities efficiently. The project was implemented using Oracle SQL for database management. Key outcomes include ER modeling, table creation, data normalization, sample data insertion, and multiple types of queries (single table, joins, subqueries) to retrieve meaningful insights. The system ensures data integrity, referential accuracy, and supports real-world scenarios for pet adoption centers.

2. Table of Contents

Page No

3. Introduction

Background

Pet adoption centers often maintain manual or semi-digital records of pets and adopters. With the increasing demand for digital transformation, a structured database system can improve data accessibility, minimize errors, and facilitate efficient adoption management.

Objective

To design and develop a database management system for pet adoption centers that can store, manage, and retrieve information about pets, adopters, shelters, visits, and adoption records.

Scope

Includes:

- Information storage for pets, shelters, and adopters
- Managing adoption and visit records
- Querying using SQL (single, multi-table, and subqueries)

Excludes:

- Real-time payment gateway
- Frontend application interface

4. Requirement Analysis

Functional Requirements

- Add, update, delete and retrieve pet profiles
- Track shelter-wise pet distribution
- Record visits made by adopters
- Track completed, pending, rejected adoptions
- Generate reports using SQL queries

Non-Functional Requirements

- Reliable data relationships through constraints
- SQL-based backend structure
- Easy data retrieval using joins and subqueries
- Secure and normalized structure

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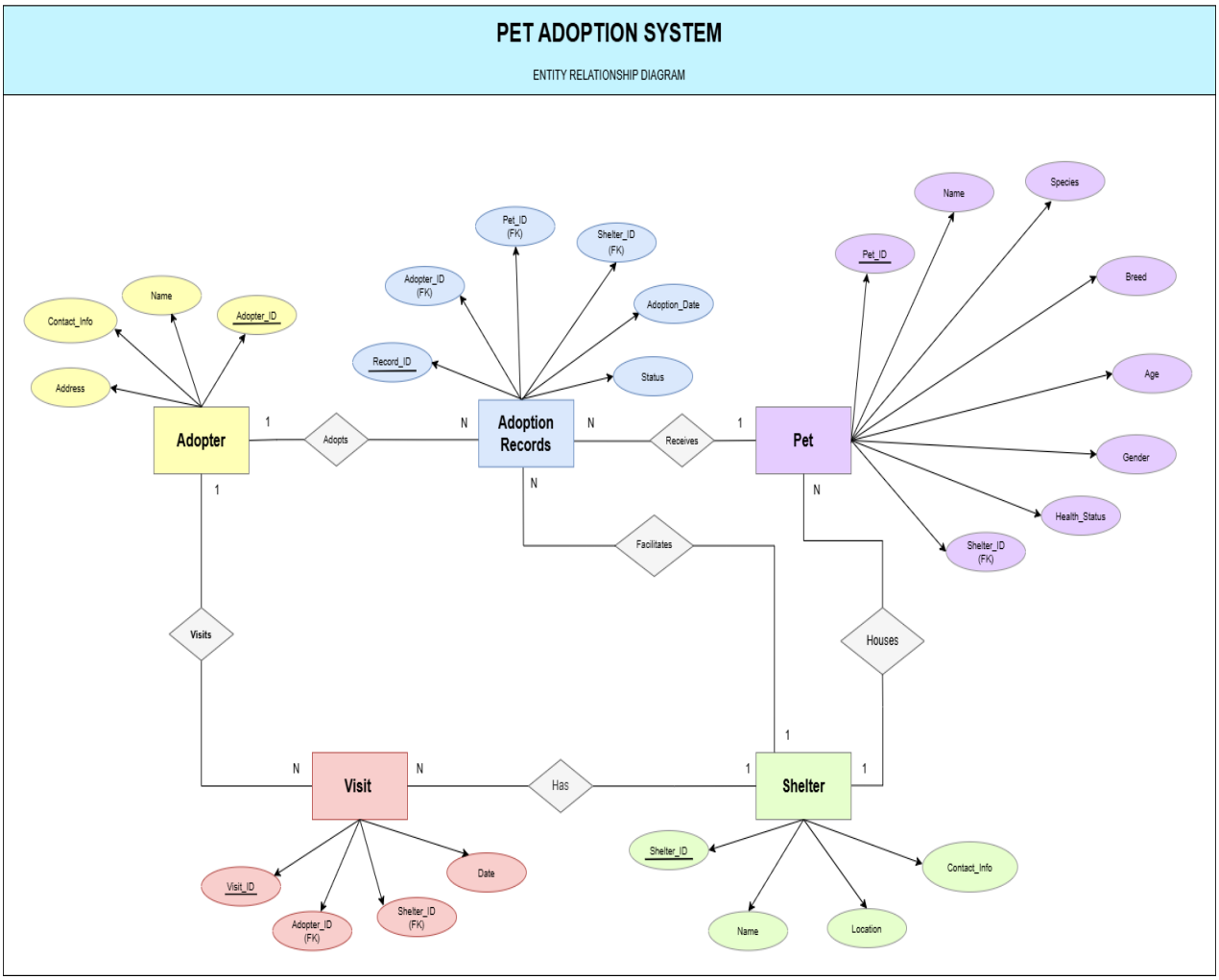
5. Conceptual Model (ERD)



6. Normalization Process

All tables are normalized up to 3NF:

- **1NF:** No repeating groups
- **2NF:** Full functional dependency on primary key
- **3NF:** No transitive dependencies

Example:
Unnormalized Pet data → Separated into Pet(Pet_ID, Name, Breed...) with Shelter_ID as FK → Final 3NF

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7. Final Relational Schema

1. Shelter (Shelter_ID, Name, Location, Contact_Info)
   PK: Shelter_ID
2. Pet (Pet_ID, Name, Species, Breed, Age, Gender, Health_Status, Shelter_ID)
   PK: Pet_ID
   FK: Shelter_ID → Shelter
3. Adopter (Adopter_ID, Name, Address, Contact_Info)
   PK: Adopter_ID
4. Visit (Visit_ID, Adopter_ID, Shelter_ID, Visit_Date)
   PK: Visit_ID
   FK: Adopter_ID → Adopter
   FK: Shelter_ID → Shelter
5. Adoption_Records (Record_ID, Adopter_ID, Pet_ID, Shelter_ID, Adoption_Date, Status)
   PK: Record_ID
   FK: Adopter_ID → Adopter
   FK: Pet_ID → Pet
   FK: Shelter_ID → Shelter

8. Table Creation and Sample Data

Table Structures (DDL)

Shelter Table:

```
CREATE TABLE Shelter (
 Shelter_ID NUMBER PRIMARY KEY,
 Name VARCHAR2(100),
 Location VARCHAR2(255),
 Contact_Info VARCHAR2(100)
);
```

Pet Table:

```
CREATE TABLE Pet (
 Pet_ID NUMBER PRIMARY KEY,
 Name VARCHAR2(100),
 Species VARCHAR2(50),
 Breed VARCHAR2(50),
 Age NUMBER,
 Gender VARCHAR2(10),
 Health_Status VARCHAR2(100),
 Shelter_ID NUMBER,
 FOREIGN KEY (Shelter_ID) REFERENCES Shelter(Shelter_ID)
);
```

Adopter Table:

```
CREATE TABLE Adopter (
  Adopter_ID NUMBER PRIMARY KEY,
  Name VARCHAR2(100),
  Address VARCHAR2(255),
  Contact_Info VARCHAR2(100)
);
```

Visit Table:

```
CREATE TABLE Visit (
  Visit_ID NUMBER PRIMARY KEY,
  Adopter_ID NUMBER,
  Shelter_ID NUMBER,
  Visit_Date DATE,
  FOREIGN KEY (Adopter_ID) REFERENCES Adopter(Adopter_ID),
  FOREIGN KEY (Shelter_ID) REFERENCES Shelter(Shelter_ID)
);
```

Adoption_Records Table:

```
CREATE TABLE Adoption_Records (
  Record_ID NUMBER PRIMARY KEY,
  Adopter_ID NUMBER,
  Pet_ID NUMBER,
  Shelter_ID NUMBER,
  Adoption_Date DATE,
```

```
 Status VARCHAR2(50),
  FOREIGN KEY (Adopter_ID) REFERENCES Adopter(Adopter_ID),
  FOREIGN KEY (Pet_ID) REFERENCES Pet(Pet_ID),
  FOREIGN KEY (Shelter_ID) REFERENCES Shelter(Shelter_ID)
);
```

Sample Data (DML)

Shelter Table:

```
INSERT ALL
  INTO Shelter VALUES (1, 'Paws Haven', 'Dhaka', '01711111111')
  INTO Shelter VALUES (2, 'Happy Tails', 'Chattogram', '01722222222')
  INTO Shelter VALUES (3, 'FurEver Home', 'Khulna', '01755555555')
  INTO Shelter VALUES (4, 'Pet Angels', 'Rajshahi', '01766666666')
  INTO Shelter VALUES (5, 'Safe Paws', 'Sylhet', '01777777777')
  INTO Shelter VALUES (6, 'Companion Shelter', 'Barisal', '01788888888')
  INTO Shelter VALUES (7, 'Animal Friends', 'Rangpur', '01799999999')
  INTO Shelter VALUES (8, 'ShelterNest', 'Mymensingh', '01800000000')
  INTO Shelter VALUES (9, 'Purrfect Haven', 'Gazipur', '01811111111')
  INTO Shelter VALUES (10, 'Wagging Tails', 'Narayanganj', '01822222222')
SELECT * FROM dual;
```

SHELTER_ID	NAME	LOCATION	CONTACT_INFO
1	Paws Haven	Dhaka	01711111111
2	Happy Tails	Chattogram	01722222222
3	FurEver Home	Khulna	01755555555
4	Pet Angels	Rajshahi	01766666666
5	Safe Paws	Sylhet	01777777777
6	Companion Shelter	Barisal	01788888888
7	Animal Friends	Rangpur	01799999999
8	ShelterNest	Mymensingh	01800000000
9	Purrfect Haven	Gazipur	01811111111
10	Wagging Tails	Narayanganj	01822222222

Pet Table:

```
 INSERT ALL
  INTO Pet VALUES (1, 'Mimi', 'Cat', 'Persian', 2, 'Female', 'Healthy', 1)
  INTO Pet VALUES (2, 'Tommy', 'Dog', 'Labrador', 3, 'Male', 'Vaccinated', 2)
  INTO Pet VALUES (3, 'Luna', 'Cat', 'Siamese', 1, 'Female', 'Healthy', 3)
  INTO Pet VALUES (4, 'Bruno', 'Dog', 'Beagle', 4, 'Male', 'Sick', 4)
  INTO Pet VALUES (5, 'Milo', 'Cat', 'Bengal', 2, 'Male', 'Vaccinated', 5)
  INTO Pet VALUES (6, 'Daisy', 'Dog', 'Pomeranian', 5, 'Female', 'Injured', 6)
  INTO Pet VALUES (7, 'Rocky', 'Dog', 'German Shepherd', 6, 'Male', 'Healthy', 7)
  INTO Pet VALUES (8, 'Coco', 'Cat', 'Ragdoll', 3, 'Female', 'Recovered', 8)
  INTO Pet VALUES (9, 'Shadow', 'Dog', 'Husky', 2, 'Male', 'Healthy', 9)
  INTO Pet VALUES (10, 'Pixie', 'Cat', 'Maine Coon', 4, 'Female', 'Under Treatment', 10)
SELECT * FROM dual;
```

PET_ID	NAME	SPECIES	BREED	AGE	GENDER	HEALTH_STATUS	SHELTER_ID
1	Mimi	Cat	Persian	2	Female	Healthy	1
2	Tommy	Dog	Labrador	3	Male	Vaccinated	2
3	Luna	Cat	Siamese	1	Female	Healthy	3
4	Bruno	Dog	Beagle	4	Male	Sick	4
5	Milo	Cat	Bengal	2	Male	Vaccinated	5
6	Daisy	Dog	Pomeranian	5	Female	Injured	6
7	Rocky	Dog	German Shepherd	6	Male	Healthy	7
8	Coco	Cat	Ragdoll	3	Female	Recovered	8
9	Shadow	Dog	Husky	2	Male	Healthy	9
10	Pixie	Cat	Maine Coon	4	Female	Under Treatment	10

Adopter Table:

```
INSERT ALL
  INTO Adopter VALUES (1, 'Amina Rahman', 'Mohakhali, Dhaka', '01733333333')
  INTO Adopter VALUES (2, 'Sakib Hasan', 'Agrabad, Chattogram', '01744444444')
  INTO Adopter VALUES (3, 'Tanjila Akter', 'Dhanmondi, Dhaka', '01833333333')
  INTO Adopter VALUES (4, 'Rahim Uddin', 'Panchlaish, Chattogram', '01844444444')
  INTO Adopter VALUES (5, 'Mariam Jahan', 'Shibganj, Rajshahi', '01855555555')
  INTO Adopter VALUES (6, 'Faridul Islam', 'Zindabazar, Sylhet', '01866666666')
  INTO Adopter VALUES (7, 'Nasima Begum', 'New Market, Khulna', '01877777777')
  INTO Adopter VALUES (8, 'Hasan Mahmud', 'Brahmanbaria', '01888888888')
  INTO Adopter VALUES (9, 'Shila Chowdhury', 'Comilla', '01899999999')
  INTO Adopter VALUES (10, 'Rifat Khan', 'Bogura', '01900000000')
SELECT * FROM dual;
```

ADOPTER_ID	NAME	ADDRESS	CONTACT_INFO
1	Amina Rahman	Mohakhali, Dhaka	01733333333
2	Sakib Hasan	Agrabad, Chattogram	01744444444
3	Tanjila Akter	Dhanmondi, Dhaka	01833333333
4	Rahim Uddin	Panchlaish, Chattogram	01844444444
5	Mariam Jahan	Shibganj, Rajshahi	01855555555
6	Faridul Islam	Zindabazar, Sylhet	01866666666
7	Nasima Begum	New Market, Khulna	01877777777
8	Hasan Mahmud	Brahmanbaria	01888888888
9	Shila Chowdhury	Comilla	01899999999
10	Rifat Khan	Bogura	01900000000

Visit Table:

```
INSERT ALL
  INTO Visit VALUES (1, 1, 1, TO_DATE('2024-10-10', 'YYYY-MM-DD'))
  INTO Visit VALUES (2, 2, 2, TO_DATE('2024-10-15', 'YYYY-MM-DD'))
  INTO Visit VALUES (3, 3, 3, TO_DATE('2024-11-01', 'YYYY-MM-DD'))
  INTO Visit VALUES (4, 4, 4, TO_DATE('2024-11-03', 'YYYY-MM-DD'))
  INTO Visit VALUES (5, 5, 5, TO_DATE('2024-11-05', 'YYYY-MM-DD'))
  INTO Visit VALUES (6, 6, 6, TO_DATE('2024-11-07', 'YYYY-MM-DD'))
  INTO Visit VALUES (7, 7, 7, TO_DATE('2024-11-09', 'YYYY-MM-DD'))
  INTO Visit VALUES (8, 8, 8, TO_DATE('2024-11-11', 'YYYY-MM-DD'))
  INTO Visit VALUES (9, 9, 9, TO_DATE('2024-11-13', 'YYYY-MM-DD'))
  INTO Visit VALUES (10, 10, 10, TO_DATE('2024-11-15', 'YYYY-MM-DD'))
 SELECT * FROM dual;
```

VISIT_ID	ADOPTER_ID	SHELTER_ID	VISIT_DATE
1	1	1	10-OCT-24
2	2	2	15-OCT-24
3	3	3	01-NOV-24
4	4	4	03-NOV-24
5	5	5	05-NOV-24
6	6	6	07-NOV-24
7	7	7	09-NOV-24
8	8	8	11-NOV-24
9	9	9	13-NOV-24
10	10	10	15-NOV-24

Adoption_Records Table:

```
INSERT ALL
  INTO Adoption_Records VALUES (1, 1, 1, 1, TO_DATE('2024-11-20', 'YYYY-MM-DD'), 'Completed')
  INTO Adoption_Records VALUES (2, 2, 2, 2, TO_DATE('2024-12-05', 'YYYY-MM-DD'), 'Pending')
  INTO Adoption_Records VALUES (3, 3, 3, 3, TO_DATE('2025-01-15', 'YYYY-MM-DD'), 'Completed')
  INTO Adoption_Records VALUES (4, 4, 4, 4, TO_DATE('2025-02-01', 'YYYY-MM-DD'), 'Rejected')
  INTO Adoption_Records VALUES (5, 5, 5, 5, TO_DATE('2025-01-25', 'YYYY-MM-DD'), 'Completed')
  INTO Adoption_Records VALUES (6, 6, 6, 6, TO_DATE('2025-02-05', 'YYYY-MM-DD'), 'Pending')
  INTO Adoption_Records VALUES (7, 7, 7, 7, TO_DATE('2025-03-01', 'YYYY-MM-DD'), 'Completed')
  INTO Adoption_Records VALUES (8, 8, 8, 8, TO_DATE('2025-03-10', 'YYYY-MM-DD'), 'Cancelled')
  INTO Adoption_Records VALUES (9, 9, 9, 9, TO_DATE('2025-03-20', 'YYYY-MM-DD'), 'Pending')
  INTO Adoption_Records VALUES (10, 10, 10, 10, TO_DATE('2025-04-01', 'YYYY-MM-DD'), 'Completed')
SELECT * FROM dual;
```

RECORD_ID	ADOPTER_ID	PET_ID	SHELTER_ID	ADOPTION_DATE	STATUS
1	1	1	1	20-NOV-24	Completed
2	2	2	2	05-DEC-24	Pending
3	3	3	3	15-JAN-25	Completed
4	4	4	4	01-FEB-25	Rejected
5	5	5	5	25-JAN-25	Completed
6	6	6	6	05-FEB-25	Pending
7	7	7	7	01-MAR-25	Completed
8	8	8	8	10-MAR-25	Cancelled
9	9	9	9	20-MAR-25	Pending
10	10	10	10	01-APR-25	Completed

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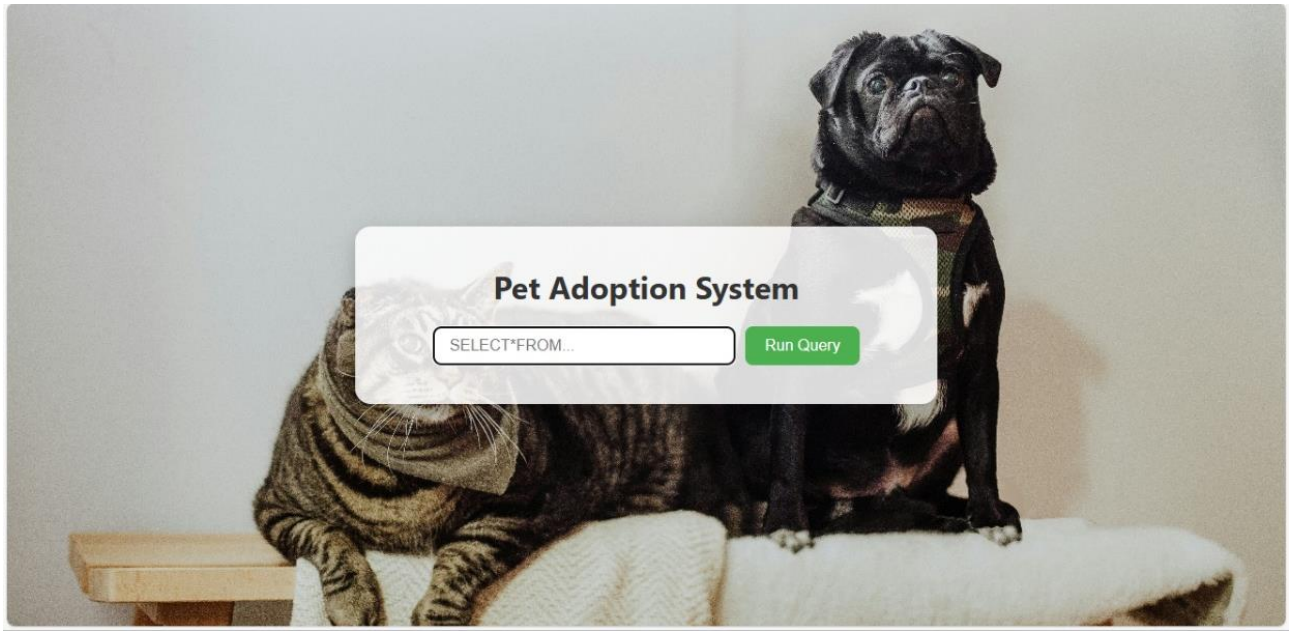
9. User Interface Design



10. DML Queries

Single Table Queries

Single QUERY : 1 (SELECT ALL COLUMNS FROM PET TABLE)

SELECT * FROM Pet

PET_ID	NAME	SPECIES	BREED	AGE	GENDER	HEALTH_STATUS	SHELTER_ID
1	Mimi	Cat	Persian	2	Female	Healthy	1
2	Tommy	Dog	Labrador	3	Male	Vaccinated	2
3	Luna	Cat	Siamese	1	Female	Healthy	3
4	Bruno	Dog	Beagle	4	Male	Sick	4
5	Milo	Cat	Bengal	2	Male	Vaccinated	5
6	Daisy	Dog	Pomeranian	5	Female	Injured	6
7	Rocky	Dog	German Shepherd	6	Male	Healthy	7
8	Coco	Cat	Ragdoll	3	Female	Recovered	8
9	Shadow	Dog	Husky	2	Male	Healthy	9
10	Pixie	Cat	Maine Coon	4	Female	Under Treatment	10

Single QUERY: 2 (SELECT SPECIFIC COLUMNS FROM ADOPTER TABLE)

SELECT Name, Contact_Info FROM Adopter

NAME	CONTACT_INFO
Amina Rahman	01733333333
Sakib Hasan	01744444444
Tanjila Akter	01833333333
Rahim Uddin	01844444444
Mariam Jahan	01855555555
Faridul Islam	01866666666
Nasima Begum	01877777777
Hasan Mahmud	01888888888
Shila Chowdhury	01899999999
Rifat Khan	01900000000

Single QUERY : 3 (SELECT ALL COLUMNS FROM SHELTER TABLE)

SELECT Name FROM Shelter

NAME
Paws Haven
Happy Tails
FurEver Home
Pet Angels
Safe Paws
Companion Shelter
Animal Friends
ShelterNest
Purrfect Haven
Wagging Tails

Single QUERY : 4 (FILTER PETS OLDER THAN 3 YEARS)

SELECT * FROM Pet WHERE Age > 3

PET_ID	NAME	SPECIES	BREED	AGE	GENDER	HEALTH_STATUS	SHELTER_ID
4	Bruno	Dog	Beagle	4	Male	Sick	4
6	Daisy	Dog	Pomeranian	5	Female	Injured	6
7	Rocky	Dog	German Shepherd	6	Male	Healthy	7
10	Pixie	Cat	Maine Coon	4	Female	Under Treatment	10

Single QUERY : 5 (FILTER PETS BY GENDER 'MALE')

SELECT * FROM Pet WHERE Gender = 'Male'

PET_ID	NAME	SPECIES	BREED	AGE	GENDER	HEALTH_STATUS	SHELTER_ID
2	Tommy	Dog	Labrador	3	Male	Vaccinated	2
4	Bruno	Dog	Beagle	4	Male	Sick	4
5	Milo	Cat	Bengal	2	Male	Vaccinated	5
7	Rocky	Dog	German Shepherd	6	Male	Healthy	7
9	Shadow	Dog	Husky	2	Male	Healthy	9

Single QUERY : 6 (FETCH COMPLETED ADOPTION RECORDS)

SELECT * FROM Adoption_Records WHERE Status = 'Completed'

RECORD_ID	ADOPTER_ID	PET_ID	SHELTER_ID	ADOPTION_DATE	STATUS
1	1	1	1	20-NOV-24	Completed
3	3	3	3	15-JAN-25	Completed
5	5	5	5	25-JAN-25	Completed
7	7	7	7	01-MAR-25	Completed
10	10	10	10	01-APR-25	Completed

Single QUERY : 7 (FIND PETS OF BREED 'LABRADOR')

SELECT * FROM Pet WHERE Breed = 'Labrador'

PET_ID	NAME	SPECIES	BREED	AGE	GENDER	HEALTH_STATUS	SHELTER_ID
2	Tommy	Dog	Labrador	3	Male	Vaccinated	2

Single QUERY : 8 (FIND ADOPTERS WHO LIVE IN DHAKA)

SELECT * FROM Adopter WHERE Address LIKE '%Dhaka%'

ADOPTER_ID	NAME	ADDRESS	CONTACT_INFO
1	Amina Rahman	Mohakhali, Dhaka	01733333333
3	Tanjila Akter	Dhanmondi, Dhaka	01833333333

Single QUERY : 9 (VISITS THAT HAPPENED IN 2024)

SELECT * FROM Visit WHERE TO_CHAR(Visit_Date, 'YYYY') = '2024'

VISIT_ID	ADOPTER_ID	SHELTER_ID	VISIT_DATE
1	1	1	10-OCT-24
2	2	2	15-OCT-24
3	3	3	01-NOV-24
4	4	4	03-NOV-24
5	5	5	05-NOV-24
6	6	6	07-NOV-24
7	7	7	09-NOV-24
8	8	8	11-NOV-24
9	9	9	13-NOV-24
10	10	10	15-NOV-24

Single QUERY : 10 (FIND PETS WITH 'HEALTHY' IN HEALTH STATUS)

SELECT * FROM Pet WHERE Health_Status LIKE '%Healthy%'

PET_ID	NAME	SPECIES	BREED	AGE	GENDER	HEALTH_STATUS	SHELTER_ID
1	Mimi	Cat	Persian	2	Female	Healthy	1
3	Luna	Cat	Siamese	1	Female	Healthy	3
7	Rocky	Dog	German Shepherd	6	Male	Healthy	7
9	Shadow	Dog	Husky	2	Male	Healthy	9

Multi-Table Queries

Join QUERY : 1 (List of Adopters and Their Adopted Pets)

```
SELECT a.Name, p.Name AS PetName
FROM Adopter a
JOIN Adoption_Records r ON a.Adopter_ID = r.Adopter_ID
JOIN Pet p ON r.Pet_ID = p.Pet_ID
```

NAME	PETNAME
Amina Rahman	Mimi
Sakib Hasan	Tommy
Tanjila Akter	Luna
Rahim Uddin	Bruno
Mariam Jahan	Milo
Faridul Islam	Daisy
Nasima Begum	Rocky
Hasan Mahmud	Coco
Shila Chowdhury	Shadow
Rifat Khan	Pixie

Join QUERY : 2 (List of Pets Not Yet Adopted)

```
SELECT p.Name AS PetName, r.Status
FROM Pet p
LEFT JOIN Adoption_Records r ON p.Pet_ID = r.Pet_ID
WHERE r.Pet_ID IS NULL
```

PETNAME	STATUS

Join QUERY : 3 (Count of Pets in Each Shelter)

```
SELECT s.Name AS ShelterName, COUNT(p.Pet_ID) AS TotalPets
FROM Shelter s
JOIN Pet p ON s.Shelter_ID = p.Shelter_ID
GROUP BY s.Name
```

SHELTERNAME	TOTALPETS
ShelterNest	1
Purrfect Haven	1
Happy Tails	1
Paws Haven	1
FurEver Home	1
Pet Angels	1
Companion Shelter	1
Animal Friends	1
Safe Paws	1
Wagging Tails	1

Join QUERY : 4 (Adopters with More Than One Completed Adoption)

```
SELECT a.Name, COUNT(r.Record_ID) AS Adoptions
FROM Adopter a
LEFT JOIN Adoption_Records r ON a.Adopter_ID = r.Adopter_ID
WHERE r.Status = 'Completed'
GROUP BY a.Name
HAVING COUNT(r.Record_ID) > 1
```

NAME	ADOPTIONS

Join QUERY : 5 (Average Age of Healthy Pets by Shelter)

```
SELECT s.Name AS ShelterName, AVG(p.Age) AS AvgPetAge
FROM Shelter s
```

JOIN Pet p ON s.Shelter_ID = p.Shelter_ID

WHERE p.Health_Status = 'Healthy'

GROUP BY s.Name

SHELTERNAME	AVGPETAGE
Purrfect Haven	2
Paws Haven	2
FurEver Home	1
Animal Friends	6

Subqueries

SUB QUERY : 1 (Pets with Completed Adoption Records)

SELECT * FROM Pet

WHERE Pet_ID IN (SELECT Pet_ID FROM Adoption_Records WHERE Status = 'Completed')

PET_ID	NAME	SPECIES	BREED	AGE	GENDER	HEALTH_STATUS	SHELTER_ID
1	Mimi	Cat	Persian	2	Female	Healthy	1
3	Luna	Cat	Siamese	1	Female	Healthy	3
5	Milo	Cat	Bengal	2	Male	Vaccinated	5
7	Rocky	Dog	German Shepherd	6	Male	Healthy	7
10	Pixie	Cat	Maine Coon	4	Female	Under Treatment	10

SUB QUERY : 2 (Names of Pets with Completed Adoptions Using EXISTS)

SELECT p.Name FROM Pet p

WHERE EXISTS (SELECT 1 FROM Adoption_Records r

WHERE r.Pet_ID = p.Pet_ID AND r.Status = 'Completed')

NAME
Mimi
Luna
Milo
Rocky
Pixie

SUB QUERY : 3 (Number of Times Each Pet Was Adopted)

```
SELECT p.Name,
 (SELECT COUNT(*) FROM Adoption_Records r WHERE r.Pet_ID = p.Pet_ID) AS TimesAdopted
FROM Pet p
```

NAME	TIMESADOPTED
Mimi	1
Tommy	1
Luna	1
Bruno	1
Milo	1
Daisy	1
Rocky	1
Coco	1
Shadow	1
Pixie	1

SUB QUERY : 4 (Adopters with More Than Average Completed Adoptions)

```
SELECT a.Adopter_ID, COUNT(*) AS CompletedAdoptions
FROM Adoption_Records a
GROUP BY a.Adopter_ID
HAVING COUNT(*) > (
SELECT AVG(cnt) FROM (
 SELECT COUNT(*) AS cnt FROM Adoption_Records GROUP BY Adopter_ID ))
```

ADOPTER_ID	COMPLETEDADOPTIONS

SUB QUERY : 5 (Adopters Without Any Adoption Records)

SELECT * FROM Adopter

WHERE Adopter_ID NOT IN (SELECT Adopter_ID FROM Adoption_Records)

ADOPTER_ID	NAME	ADDRESS	CONTACT_INFO

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11. Challenges Faced

- Maintaining referential integrity due to cyclic FK relationships
- Normalizing visit and adoption data without redundancy
- Handling NULLs in outer joins
- Generating accurate aggregate reports with HAVING clause

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12. Conclusion

The project successfully demonstrated how database systems can streamline pet adoption center operations. With normalized data and robust SQL querying, information retrieval becomes easier and more meaningful. The system provides a reliable backend for real-life web-based adoption services.

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13. References

[1] Oracle SQL Documentation: https://docs.oracle.com/en/database/
[2] Lecture Slides: CSE 2424 DBMS Lab Materials
[3] draw.io for ERD Design

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14. Appendix

Github link : https://github.com/RAMISATA/Pet-Adoption-System.git

End of Report