DBMS ASSIGNMENT 2

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Problem Statement:

In earlier days, Zoological gardens provided an opportunity to open a whole new world of curiosity and interest and sensitize visitors regarding the value and need for conservation of wildlife. Zoos were initially started for the entertainment of people. Gradually over the years, they have come to play a key role in the conservation of wildlife. The goal of zoos is the conservation of animals. The entire detail of the "Zoo Park" and to elaborate more on providing visitors entry tickets, keeping animals' details, and maintaining their birth, death certificates and information. Zoos face the problems of issuing a ticket and maintaining the animal's data manually. It is extremely time-consuming and complex. The data is stored in the form of a spreadsheet. This leads to the difficulty of calculating and maintaining the data.

Reasons to justify the choice of DBMS:

We chose PostgreSQL as our database because it is one of the most advanced open-source databases and available for every operating system.

Here are a few advantages of PostgreSOL database:

- Diverse community.
- PostgreSQL supports ACID (Atomicity, Consistency, Isolation, Durability)
- SQL functions called 'Store Procedure' can be used for the server environments. Also, we support languages like PL/SQL in Oracle such as PL/pgSQL, PL/Python, PL/Peri, C/C++ and PL/R.
- Full-text search is available when searching for strings with the execution of vector operation and string search.
- PostgreSQL supports different kinds of techniques for geographic data storage such as PostGIS, Key-Value Store and DBLink.

An RDBMS, or **relational database management system**, is the software that gives users the ability to update, query and administer a relational database. Structured Query Language (SQL) is typically the standard programming language used to access the database.

Advantages of using RDBMS:

1)**Avoids Data Redundancy**: Data Redundancy is common in DBMS. However, RDBMS utilizes keys and indexes in the table to avoid any data redundancies.

2) **Suitable for Wider Range of Apps**: Since RDBMS can process the complex and large amount of data, it is suitable for wider range of Apps as compared to DBMS.

SQL codes insert and create statements:

CREATE:

```
DROP TABLE IF EXISTS animal;
CREATE TABLE animal(
  Aid varchar(15) NOT NULL,
  Gender varchar(10) DEFAULT NULL,
  Cage_Number int NOT NULL,
  Feed_Time varchar(30) NOT NULL,
  AKid varchar(15) DEFAULT NULL,
  PRIMARY KEY (Aid)

);
```

```
-- ----------------------------------------------------------
DROP TABLE IF EXISTS animal_detail;
CREATE TABLE animal_detail (
  ADid varchar(15) NOT NULL,
  Height varchar(10) DEFAULT NULL,
  Weight varchar(10) DEFAULT NULL,
```

```
  Age int DEFAULT NULL,
  Aid varchar(15) NOT NULL,
  PRIMARY KEY (ADid)

);

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-- ----------------------------------------------------
DROP TABLE IF EXISTS animal_guide;
CREATE TABLE animal_guide (
  AGid varchar(15) NOT NULL,
  Zoo_Introduction text NOT NULL,
  Updated_Year int DEFAULT NULL,
  PRIMARY KEY (AGid)
);

-- ----------------------------------------------------

DROP TABLE IF EXISTS animal_kind;
CREATE TABLE animal_kind (
  AKid varchar(15) NOT NULL,
  AName varchar(30) NOT NULL,
  Physical_Characteristics TEXT NOT NULL,
  Zoo_Region varchar(50) NOT NULL,
  Diet varchar(30) NOT NULL,
  Population_Status varchar(30) NOT NULL,
```

```
  PRIMARY KEY (AKid)
);

--

-- ----------------------------------------------------
DROP TABLE IF EXISTS contains;
CREATE TABLE contains (
  AKid varchar(15) NOT NULL,
  AGid varchar(15) NOT NULL,
  PRIMARY KEY (AKid,AGid)
);

-- ----------------------------------------------------
DROP TABLE IF EXISTS customer;
CREATE TABLE customer (
  Cid varchar(15) NOT NULL,
  CFname varchar(30) NOT NULL,
  CLname varchar(30) NOT NULL,
  Email varchar(30) DEFAULT NULL,
  Address varchar(100) DEFAULT NULL,
  Credit_Card_Info varchar(100) DEFAULT NULL,
  PRIMARY KEY (Cid)
);

--

-- ----------------------------------------------------
```

```
DROP TABLE IF EXISTS employee;
CREATE TABLE employee (
  Eid int NOT NULL,
  EFname varchar(30) NOT NULL,
  ELname varchar(30) NOT NULL,
  Phone_No varchar(30) NOT NULL,
  Salary int NOT NULL,
  Zid varchar(15) NOT NULL,
  PRIMARY KEY (Eid)

);

--
-- ----------------------------------------------------------
DROP TABLE IF EXISTS features;
CREATE TABLE features (
  Zid int NOT NULL,
  AGid int NOT NULL

);

-- ----------------------------------------------------------
DROP TABLE IF EXISTS goes_to;
CREATE TABLE goes_to (
  Cid varchar(15) NOT NULL,
  Zid varchar(15) NOT NULL,
  PRIMARY KEY (Cid,Zid)
```

```
);

-- -----------------------------------------------------
DROP TABLE IF EXISTS looks_after;
CREATE TABLE looks_after (
  Eid varchar(15) NOT NULL,
  Aid varchar(15) NOT NULL,
  PRIMARY KEY (Eid,Aid)

);

-- -----------------------------------------------------
DROP TABLE IF EXISTS manages;
CREATE TABLE manages (
  Eid varchar(15) NOT NULL,
  Tid varchar(15) NOT NULL,
  PRIMARY KEY (Eid,Tid)

);

-- -----------------------------------------------------
DROP TABLE IF EXISTS ticket;
CREATE TABLE ticket (
  Tid varchar(15) NOT NULL,
  Price int NOT NULL,
  Cid varchar(15) NOT NULL,
```

```
  PRIMARY KEY (Tid)

);

-- ----------------------------------------------------
DROP TABLE IF EXISTS zoo;
CREATE TABLE zoo (
  Zid int NOT NULL,
  ZName varchar(50) NOT NULL,
  Location varchar(100) NOT NULL,
  Hours varchar(100) NOT NULL,
  Contact varchar(100) NOT NULL,
  AGid varchar(15) NOT NULL,
  PRIMARY KEY (Zid)

);
```

INSERT:

```
INSERT INTO animal (Aid, Gender, Cage_Number, Feed_Time, AKid) VALUES
('1', 'male', 1, '2:00-2:30pm', '21'),
('2', 'female', 2, '1:00-1:30pm', '22');

--

INSERT INTO animal_detail (ADid, Height, Weight, Age, Aid) VALUES
('51', '4 feet', '100 kg', 33, '1'),
('52', '5 feet', '120 kg', 43, '2');
```

--

INSERT INTO animal_guide (AGid, zoo_Introduction, Updated_Year) VALUES

('30', 'Best place to visit for animal enthusiasts', '1999'),

('31', 'All kinds of animals', '1974');

--

INSERT INTO animal_kind (AKid, AName, Physical_Characteristics, Zoo_Region, Diet, Population_Status) VALUES

('21', 'sheru', 'Companies can analyse several batches of production and use broader data sets to alter the operating conditions and meet the quality specifications. This saves cost in avoiding off spec material. Further quality assurance can also help build better customer relationship', 'pune', 'non-veg', '5');

--

INSERT INTO customer (Cid, CFname, CLname, Email, Address, Credit_Card_Info) VALUES

('1', 'amal', 'sutone', 'amal@gmail.com', 'nagpur', '12233445533'),

('2', 'shubham', 'maratha', 'sm@gmail.com', 'bhilwara', '12323456765434'),

('3', 'babu', 'rao', 'bau@gmail.com', 'mumbai', '12345678987\r\n');

--

INSERT INTO employee (Eid, EFname, ELname, Phone_No, Salary, Zid) VALUES

(100, 'adarsh', 'parabhat', '987612344', 1000, '200'),

(101, 'prajoyat', 'sharma', '987613344', 2000, '201'),

(103, 'jacksx', 'chaudhary', '0712696969', 2400, '202');

--

INSERT INTO ticket(Tid, Price, Cid) VALUES

('5','25','2'),

('4','40','3');

--

INSERT INTO zoo (Zid, ZName, Location, Hours, Contact, AGid) VALUES

(1001, 'RG', 'Goa', '12pm-10pm', '8787878789', '103'),

(1002, 'ANNA', 'CHENNAI', '9:00 am - 5:00 pm', '9898989238', '101'),

(1007, 'APPA', 'PUNE', '7am-4pm', '8787878799', '201'),

(1012, '12', 'xyz', '10', '7272727272', '111');

CONTRIBUTIONS:

Manasa R: Installation of software and execution of code.

Namita Nayak: Constraints about using PostGres and compilation of report.

Nidhi Bharatiya: RDBMS, create and insert statements pasting and compilation of report.