Government Document Payment Database - Final Project

Submitted for

Database Management System (UCS310)

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Batch:2021-25

Submitted to-

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Introduction and Requirement Analysis

The Government Document Payment Database is a database management system project that aims to provide a centralized platform for managing government document payments. The system will have tables for Customers, Aadharcard, Passport, Pan Card, KYC, and Bank Accounts. It will facilitate faster and more efficient processing of document payments, reducing paperwork and minimizing errors. This project will be beneficial for the government and the citizens alike, as it will enable a smooth and streamlined process for document verification and payments.

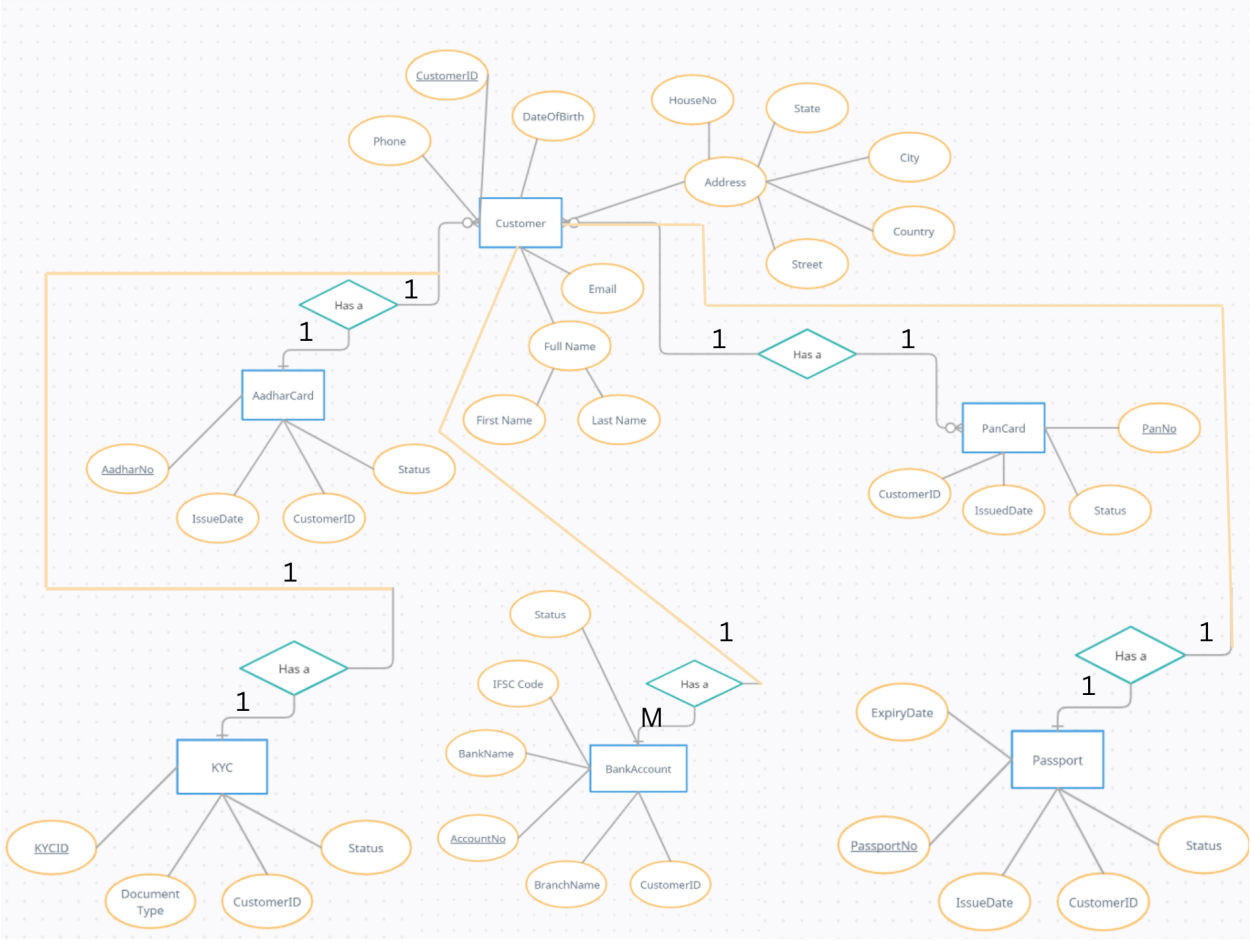
Requirement Analysis:

- Customer Table: This table will store all the customer information, including name, address, email, and phone number. It will also have a unique identifier for each customer.
- Aadharcard Table: This table will store all the information related to Aadharcard, including the Aadhar number, name, address, and date of birth. It will also have a unique identifier for each Aadharcard.
- Passport Table: This table will store all the information related to the passport, including passport number, name, address, and date of birth. It will also have a unique identifier for each passport.
- Pan Card Table: This table will store all the information related to the Pan Card, including the Pan Card number, name, address, and date of birth. It will also have a unique identifier for each Pan Card.
- KYC Table: This table will store all the information related to the KYC process, including the type of document submitted for verification, document number, and verification status.
- Bank Account Table: This table will store all the information related to the bank account, including the account number, bank name. It will also have a unique identifier for each bank account.

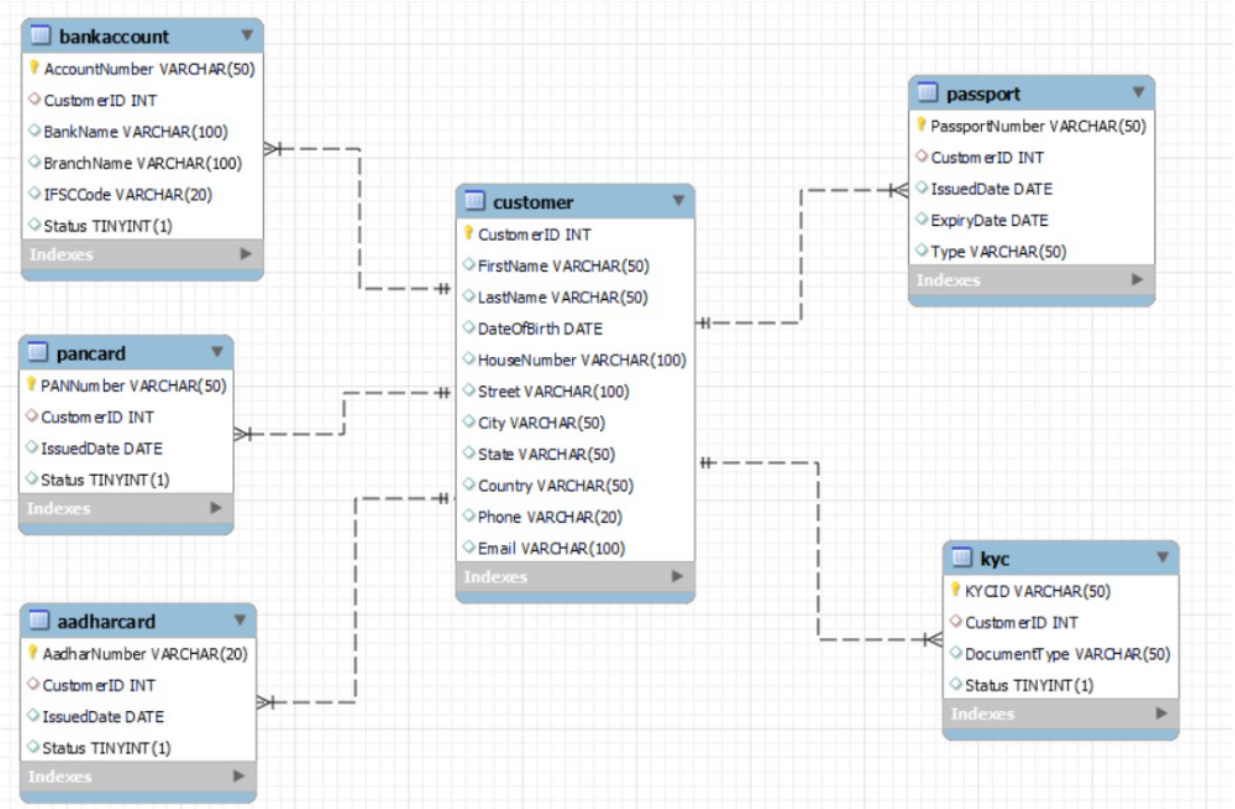
The Government Document Payment Database will have the following functionalities:

- Adding, updating, and deleting customer information.
- Adding, updating, and deleting Aadharcard, passport, and Pan Card information.
- Verifying the submitted documents for KYC and updating the verification status.
- Adding, updating, and deleting bank account information.
- Generating reports for customer information, document payments, and document verification status.

ER Diagram


CustomerID
DateOfBirth
Phone
HouseNo
State
City
Address
Country
Street
Customer
Email
Full Name
First Name
Last Name
Has a
1
1
AadharCard
AadharNo
IssueDate
CustomerID
Status
1
Has a
1
PanCard
PanNo
CustomerID
IssuedDate
Status
1
Has a
1
KYC
KYCID
Document Type
CustomerID
Status
Status
IFSC Code
Has a
M
BankName
BankAccount
AccountNo
BranchName
CustomerID
1
Has a
1
Passport
ExpiryDate
PassportNo
IssueDate
CustomerID
Status

ER to Table


bankaccount
AccountNumber VARCHAR(50)
CustomerID INT
BankName VARCHAR(100)
BranchName VARCHAR(100)
IFSCCode VARCHAR(20)
Status TINYINT(1)
Indexes
customer
CustomerID INT
FirstName VARCHAR(50)
LastName VARCHAR(50)
DateOfBirth DATE
HouseNumber VARCHAR(100)
Street VARCHAR(100)
City VARCHAR(50)
State VARCHAR(50)
Country VARCHAR(50)
Phone VARCHAR(20)
Email VARCHAR(100)
Indexes
passport
PassportNumber VARCHAR(50)
CustomerID INT
IssuedDate DATE
ExpiryDate DATE
Type VARCHAR(50)
Indexes
pancard
PANNumber VARCHAR(50)
CustomerID INT
IssuedDate DATE
Status TINYINT(1)
Indexes
aadharcard
AadharNumber VARCHAR(20)
CustomerID INT
IssuedDate DATE
Status TINYINT(1)
Indexes
kyc
KYCID VARCHAR(50)
CustomerID INT
DocumentType VARCHAR(50)
Status TINYINT(1)
Indexes

Normalization

1. Identify the entities in the table: Start by identifying the entities within the table. Entities are the objects or concepts that are represented by the table. For example, if the table contains customer information, the entities would be the customers.

2. Identify the attributes for each entity: Next, identify the attributes for each entity. Attributes are the characteristics or properties of the entities. For example, the attributes of a customer entity include their name, address, and phone number.

3. Create a table for each entity: Once you have identified the entities and their attributes, create a separate table for each entity. Each table should have a primary key that uniquely identifies each record.

4. Identify relationships between entities: Identify the relationships between the entities in the table. For example, a customer entity may have a relationship with an order entity.

5. Create a foreign key: Create a foreign key in each table that links to the primary key in the related table. For example, in the customer table, you would create a foreign key that links to the primary key in the order table.

6. Normalize the tables: Normalize the tables by eliminating duplicate data and grouping related data into separate tables. This will help to minimize data redundancy and improve data integrity.

7. Verify that the tables are in 3NF: Once you have normalized them, verify that they are in 3NF. Each table should have a single primary key, and all non-key attributes should depend on the primary key. There should be no transitive dependencies between non-key attributes.

In the end, we will get six tables in 3 NF formats. The customer table contains the data common to all tables.

Code

Creating Tables

```
CREATE TABLE Customer (
    CustomerID INT PRIMARY KEY,
    FirstName VARCHAR(50),
    LastName VARCHAR(50),
    DateOfBirth DATE,
    HouseNumber VARCHAR(100),
    Street VARCHAR(100),
    City VARCHAR(50),
    State VARCHAR(50),
    Country VARCHAR(50),
    Phone VARCHAR(20),
    Email VARCHAR(100),
    UNIQUE (Email),
    UNIQUE (Phone)
);

```

```
CREATE TABLE PANCard (
    PANNumber VARCHAR(50) PRIMARY KEY,
    CustomerID INT,
    IssuedDate DATE,
    Status NUMBER(1) CHECK (Status IN (0, 1)),
    FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID) ON DELETE CASCADE,
     CHECK (IssuedDate >= TO_DATE('1972-01-01', 'YYYY-MM-DD'))
);

```

```
CREATE TABLE AadharCard (
    AadharNumber VARCHAR(20) PRIMARY KEY,
    CustomerID INT,
    IssuedDate DATE,
    Status NUMBER(1) CHECK (Status IN (0, 1)),
    FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID) ON DELETE CASCADE,
    CHECK (LENGTH(AadharNumber) = 12),
    CHECK (IssuedDate >= TO_DATE('2010-09-29', 'YYYY-MM-DD'))
);
```

```
CREATE TABLE BankAccount (
    AccountNumber VARCHAR(50) PRIMARY KEY,
    CustomerID INT,
    BankName VARCHAR(100),
    BranchName VARCHAR(100),
    IFSCCode VARCHAR(20),
    Status NUMBER(1) CHECK (Status IN (0, 1)),
    FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID) ON DELETE CASCADE
);
```

```
CREATE TABLE KYC (
    KYCID VARCHAR(50) PRIMARY KEY,
    CustomerID INT,
    DocumentType VARCHAR(50),
    Status NUMBER(1) CHECK (Status IN (0, 1)),
    FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID) ON DELETE CASCADE,
    CHECK (DocumentType IN ('PAN', 'Aadhar', 'Passport'))
);
```

```
CREATE TABLE Passport (
    PassportNumber VARCHAR(50) PRIMARY KEY,
    CustomerID INT,
    IssuedDate DATE,
    ExpiryDate DATE,
    Type VARCHAR(50),
    FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID) ON DELETE CASCADE,
    CHECK (Type IN ('Civilian', 'Official', 'Diplomatic'))
);
```

```
Table created.

Table created.

Table created.

Table created.

Table created.

Table created.
```

Inserting Values into Tables

```
INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES (1, 'Aryan', 'Garg', TO_DATE('2000-01-01', 'YYYY-MM-DD'), '1234', 'Main Street', 'New Delhi', 'Delhi', 'India', '+91 9999999999', 'aryan.raj.garg@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES (2, 'Sanya', 'Mishra', TO_DATE('1998-03-15', 'YYYY-MM-DD'), '5678', 'Highway Road', 'Mumbai', 'Maharashtra', 'India', '+91 8888888888', 'sanya.mishra@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES (3, 'Rohit', 'Sharma', TO_DATE('1987-04-30', 'YYYY-MM-DD'), '9012', 'Park Avenue', 'Kolkata', 'West Bengal', 'India', '+91 7777777777', 'rohit.sharma@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES (4, 'Aditi', 'Jain', TO_DATE('2001-08-12', 'YYYY-MM-DD'), '3456', 'Lake View', 'Chennai', 'Tamil Nadu', 'India', '+91 6666666666', 'aditi.jain@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES (5, 'Kunal', 'Khanna', TO_DATE('1990-05-20', 'YYYY-MM-DD'), '7890', 'Garden Lane', 'Bengaluru', 'Karnataka', 'India', '+91 5555555555', 'kunal.khanna@gmail.com');
```

```
INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(6, 'Aarav', 'Shah',  TO_DATE('1990-01-01', 'YYYY-MM-DD'),'111', '123 Main St', 'Mumbai', 'Maharashtra', 'India', '1234567890', 'aarav.shah@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(7, 'Isha', 'Patel',  TO_DATE('1985-05-15','YYYY-MM-DD'), '123', '456 Oak Ave', 'Ahmedabad', 'Gujarat', 'India', '9876543210', 'isha.patel@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(8, 'Aryan', 'Desai',  TO_DATE('1978-11-30','YYYY-MM-DD'), '321', '789 Elm St', 'Pune', 'Maharashtra', 'India', '5555551212', 'aryan.desai@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(9, 'Riya', 'Mehta',  TO_DATE('1995-03-22','YYYY-MM-DD'), '421','321 Maple Dr', 'Delhi', 'Delhi', 'India', '4444441234', 'riya.mehta@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(10, 'Kabir', 'Gupta',  TO_DATE('1982-07-12','YYYY-MM-DD'), '432','567 Pine St', 'Kolkata', 'West Bengal', 'India', '7777777777', 'kabir.gupta@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(11, 'Ayesha', 'Singh',  TO_DATE('1998-02-14','YYYY-MM-DD'),'555', '111 Birch Rd', 'Jaipur', 'Rajasthan', 'India', '2222222222', 'ayesha.singh@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(12, 'Arjun', 'Jain',  TO_DATE('1976-09-05','YYYY-MM-DD'), '465', '222 Cedar Ave', 'Chennai', 'Tamil Nadu', 'India', '3333333333', 'arjun.jain@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(13, 'Sneha', 'Kumar',  TO_DATE('1989-12-18','YYYY-MM-DD'),'666', '444 Oak St', 'Hyderabad', 'Telangana', 'India', '8888888888', 'sneha.kumar@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(14, 'Rahul', 'Verma',  TO_DATE('1991-06-10','YYYY-MM-DD'),'665', '777 Maple Rd', 'Bengaluru', 'Karnataka', 'India', '9999999999', 'rahul.verma@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(15, 'Priya', 'Nair',  TO_DATE('1980-04-25','YYYY-MM-DD'),'531', '999 Elm Ave', 'Thiruvananthapuram', 'Kerala', 'India', '1111111111', 'priya.nair@gmail.com');
```

```
INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(16, 'Amit', 'Rao',  TO_DATE('1973-08-07','YYYY-MM-DD'), '901', '888 Pine Rd', 'Chandigarh', 'Chandigarh', 'India', '7777771777', 'amit.rao@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(17, 'Neha', 'Saxena',  TO_DATE('1993-01-12','YYYY-MM-DD'), '765', '666 Maple St', 'Lucknow', 'Uttar Pradesh', 'India', '4444444444', 'neha.saxena@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(18, 'Rohan', 'Gandhi',  TO_DATE('1987-12-01','YYYY-MM-DD'),'851', '555 Cedar Dr', 'Indore', 'Madhya Pradesh', 'India', '2232222222', 'rohan.gandhi@email.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(19, 'Aditi', 'Singh',  TO_DATE('1996-09-25', 'YYYY-MM-DD'),'472', '789 Oak St', 'Jaipur','Rajasthan','India','1111122222','aditisingh@gmail.com');

INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
VALUES
(20, 'Sarthak', 'Sharma', TO_DATE('2000-12-15', 'YYYY-MM-DD'), '981', '555 sector', 'Patiala', 'Punjab', 'India', '1234523456', 'sarthak.sharma@gmail.com');
```

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1 row(s) inserted.

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```
INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES ('ABCDE1234F', 1, TO_DATE('2022-01-01', 'YYYY-MM-DD'), 1);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES ('ABCDE5678G', 2, TO_DATE('2021-07-15', 'YYYY-MM-DD'), 1);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES ('ABCDE9012H', 3, TO_DATE('2023-02-28', 'YYYY-MM-DD'), 0);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES ('ABCDE3456J', 4, TO_DATE('2022-05-10', 'YYYY-MM-DD'), 1);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES ('ABCDE7890K', 5, TO_DATE('2021-11-21', 'YYYY-MM-DD'), 1);
```

```
INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE12345', 6, TO_DATE('2022-01-01', 'YYYY-MM-DD'), 1);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE23456', 7, TO_DATE('2022-02-01', 'YYYY-MM-DD'), 0);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE34567', 8, TO_DATE('2022-03-01', 'YYYY-MM-DD'), 1);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE45678', 9, TO_DATE('2022-04-01', 'YYYY-MM-DD'), 0);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE56789', 10, TO_DATE('2022-05-01', 'YYYY-MM-DD'), 1);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE67890', 11, TO_DATE('2022-06-01', 'YYYY-MM-DD'), 0);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE78901', 12, TO_DATE('2022-07-01', 'YYYY-MM-DD'), 1);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE89012', 13, TO_DATE('2022-08-01', 'YYYY-MM-DD'), 0);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE90123', 14, TO_DATE('2022-09-01', 'YYYY-MM-DD'), 1);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE01234', 15, TO_DATE('2022-10-01', 'YYYY-MM-DD'), 0);
```

```
INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE12347', 16, TO_DATE('2022-11-01', 'YYYY-MM-DD'), 1);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE23458', 17, TO_DATE('2022-12-01', 'YYYY-MM-DD'), 0);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE34569', 18, TO_DATE('2023-01-01', 'YYYY-MM-DD'), 1);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE45670', 19, TO_DATE('2023-02-01', 'YYYY-MM-DD'), 0);

INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
VALUES
  ('ABCDE56781', 20, TO_DATE('2023-03-01', 'YYYY-MM-DD'), 1);
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1 row(s) inserted.

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```

```
INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES ('111122223333', 1, TO_DATE('2020-01-01', 'YYYY-MM-DD'), 1);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES ('444455556666', 2, TO_DATE('2019-02-14', 'YYYY-MM-DD'), 1);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES ('777788889999', 3, TO_DATE('2018-03-27', 'YYYY-MM-DD'), 0);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES ('101112131415', 4, TO_DATE('2017-04-30', 'YYYY-MM-DD'), 1);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES ('161718192021', 5, TO_DATE('2016-05-15', 'YYYY-MM-DD'), 1);
```

```
INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES ('111122223333', 6, TO_DATE('2010-10-01','YYYY-MM-DD'), 1);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
      ('444455556666', 7, TO_DATE('2011-03-15','YYYY-MM-DD'), 0);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
      ('777788889999', 8, TO_DATE('2012-05-22','YYYY-MM-DD'), 1);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
      ('121212121212', 9, TO_DATE('2013-01-01','YYYY-MM-DD'), 0);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
      ('343434343434', 10, TO_DATE('2014-07-05','YYYY-MM-DD'), 1);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
      ('565656565656', 11, TO_DATE('2015-11-11','YYYY-MM-DD'), 0);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
      ('787878787878', 12, TO_DATE('2016-09-01','YYYY-MM-DD'), 1);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
      ('909090909090', 13, TO_DATE('2017-08-20','YYYY-MM-DD'), 0);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
      ('232323232323', 14, TO_DATE('2018-04-25','YYYY-MM-DD'), 1);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
      ('454545454545', 15, TO_DATE('2019-02-14','YYYY-MM-DD'), 0);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
      ('676767676767', 16, TO_DATE('2020-06-30','YYYY-MM-DD'), 1);
```

```sql
INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
       ('898989898989', 17, TO_DATE('2021-01-05','YYYY-MM-DD'), 0);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
       ('123212121212', 18, TO_DATE('2022-03-08','YYYY-MM-DD'), 1);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
       ('341434343434', 19, TO_DATE('2023-04-11','YYYY-MM-DD'), 0);

INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
VALUES
       ('561656565656', 20, TO_DATE('2024-05-14','YYYY-MM-DD'), 1);
```

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1 row(s) inserted.

1 row(s) inserted.

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1 row(s) inserted.
```

```sql
INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES ('1234567890', 1, 'HDFC Bank', 'Koramangala', 'HDFC0000123', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES ('0987654321', 2, 'ICICI Bank', 'Indiranagar', 'ICIC0000456', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES ('7777777777', 3, 'SBI', 'MG Road', 'SBIN0001234', 0);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES ('1111111111', 4, 'Axis Bank', 'Jayanagar', 'AXIS0000456', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES ('2222222222', 5, 'Kotak Mahindra Bank', 'Bannerghatta Road', 'KKBK0001234', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES ('5555666677778888', 3, 'Axis Bank', 'Koramangala Branch', 'UTIB0000123', 1);
```

```sql
INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES ('4444333322221111', 3, 'Kotak Mahindra Bank', 'Indiranagar Branch', 'KKBK0000654', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES ('9876543210987654', 1, 'ICICI Bank', 'Infantry Road Branch', 'ICIC0000987', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES ('1111222233334444', 1, 'SBI Bank', 'Brigade Road Branch', 'SBIN0004321', 1);
```

```
INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES ('1234567890123456', 6, 'ICICI Bank', 'Mumbai Branch', 'ICIC0000001', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('2345678901234567', 7, 'HDFC Bank', 'Delhi Branch', 'HDFC0000002', 0);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('3456789012345678', 8, 'Axis Bank', 'Bangalore Branch', 'UTIB0000003', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('4567890123456789', 9, 'SBI', 'Kolkata Branch', 'SBIN0000004', 0);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('5678901234567890', 10, 'PNB', 'Chennai Branch', 'PUNB0000005', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('6789012345678901', 11, 'Citi Bank', 'Pune Branch', 'CITI0000006', 0);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('7890123456789012', 12, 'Bank of Baroda', 'Ahmedabad Branch', 'BARB0000007', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('8901234567890123', 13, 'Yes Bank', 'Hyderabad Branch', 'YESB0000008', 0);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('9012345678901234', 14, 'Canara Bank', 'Lucknow Branch', 'CNRB0000009', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('6381946552819361', 15, 'IndusInd Bank', 'Jaipur Branch', 'INDB0000010', 0
```

```
    INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('5926453728181928', 16, 'Kotak Mahindra Bank', 'Kochi Branch', 'KKBK0000011', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('1224642762411112', 17, 'Central Bank of India', 'Guwahati Branch', 'CBIN0000012', 0);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('52413363791037363', 18, 'Union Bank of India', 'Raipur Branch', 'UBIN0000013', 1);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('3152638400472614', 19, 'IDFC First Bank', 'Bhubaneswar Branch', 'IDFB0000014', 0);

INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
VALUES
       ('1224365658292913', 20, 'Federal Bank', 'Dehradun Branch', 'FDRL0000015', 1);
```

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```sql
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES ('KYC001', 1, 'PAN', 1);

INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES ('KYC002', 2, 'Aadhar', 1);

INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES ('KYC003', 3, 'Passport', 0);

INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES ('KYC004', 4, 'PAN', 1);

INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES ('KYC005', 5, 'Aadhar', 0);
```

```sql
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC06', 6, 'PAN', 1);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC07', 7, 'Aadhar', 0);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC08', 8, 'Passport', 1);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC09', 9, 'PAN', 1);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC10', 10, 'Aadhar', 0);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC11', 11, 'Passport', 1);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC12', 12, 'PAN', 0);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC13', 13, 'Aadhar', 1);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC14', 14, 'Passport', 0);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC15', 15, 'PAN', 1);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC16', 16, 'Aadhar', 1);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC17', 17, 'Passport', 0);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC18', 18, 'PAN', 0);
```

```sql
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC19', 19, 'Aadhar', 1);
INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
VALUES
    ('KYC20', 20, 'Passport', 1);
```

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```sql
INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
VALUES ('A1234567', 1, TO_DATE('2021-01-01', 'YYYY-MM-DD'), TO_DATE('2031-01-01', 'YYYY-MM-DD'), 'Civilian');

INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
VALUES ('B2345678', 2, TO_DATE('2019-05-01', 'YYYY-MM-DD'), TO_DATE('2029-05-01', 'YYYY-MM-DD'), 'Official');

INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
VALUES ('C3456789', 3, TO_DATE('2022-10-01', 'YYYY-MM-DD'), TO_DATE('2032-10-01', 'YYYY-MM-DD'), 'Diplomatic');
```

```
372
373 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
374 VALUES ('D3456789', 4, TO_DATE('1922-10-01', 'YYYY-MM-DD'), TO_DATE('1932-10-01', 'YYYY-MM-DD'), 'Diplomatic');
375
376 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
377 VALUES ('E3456789', 5, TO_DATE('2012-10-01', 'YYYY-MM-DD'), TO_DATE('2022-10-01', 'YYYY-MM-DD'), 'Civilian');
378
379 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
380 VALUES ('F3456789', 6, TO_DATE('2010-10-05', 'YYYY-MM-DD'), TO_DATE('2020-10-05', 'YYYY-MM-DD'), 'Official');
381
382 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
383 VALUES ('G3456789', 7, TO_DATE('2008-10-01', 'YYYY-MM-DD'), TO_DATE('2018-10-01', 'YYYY-MM-DD'), 'Civilian');
384
385 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
386 VALUES ('H3456789', 8, TO_DATE('2001-11-01', 'YYYY-MM-DD'), TO_DATE('2011-11-01', 'YYYY-MM-DD'), 'Civilian');
387
388 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
389 VALUES ('I3456789', 9, TO_DATE('2008-10-10', 'YYYY-MM-DD'), TO_DATE('2018-10-10', 'YYYY-MM-DD'), 'Civilian');
390
391 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
392 VALUES ('J3456789', 10, TO_DATE('2004-10-01', 'YYYY-MM-DD'), TO_DATE('2014-10-01', 'YYYY-MM-DD'), 'Diplomatic');
393
394 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
395 VALUES ('K3456789', 11, TO_DATE('2022-03-19', 'YYYY-MM-DD'), TO_DATE('2032-03-19', 'YYYY-MM-DD'), 'Civilian');
396
397 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
398 VALUES ('L3456789',12, TO_DATE('2020-12-01', 'YYYY-MM-DD'), TO_DATE('2030-12-01', 'YYYY-MM-DD'), 'Civilian');
399
400 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
401 VALUES ('M3456789', 13, TO_DATE('2018-10-01', 'YYYY-MM-DD'), TO_DATE('2028-10-01', 'YYYY-MM-DD'), 'Diplomatic');
402
403 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
404 VALUES ('N3456789', 14, TO_DATE('2019-12-13', 'YYYY-MM-DD'), TO_DATE('2092-12-13', 'YYYY-MM-DD'), 'Civilian');
405
406 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
407 VALUES ('O3456789', 15, TO_DATE('2023-10-01', 'YYYY-MM-DD'), TO_DATE('2033-10-01', 'YYYY-MM-DD'), 'Official');
408
409 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
410 VALUES ('P3456789', 16, TO_DATE('2009-01-01', 'YYYY-MM-DD'), TO_DATE('2019-01-01', 'YYYY-MM-DD'), 'Diplomatic');
411
412 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
413 VALUES ('Q3456789', 17, TO_DATE('2013-10-01', 'YYYY-MM-DD'), TO_DATE('2032-10-01', 'YYYY-MM-DD'), 'Civilian');
414
415 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
416 VALUES ('R3456789', 18, TO_DATE('2002-10-01', 'YYYY-MM-DD'), TO_DATE('2012-10-01', 'YYYY-MM-DD'), 'Diplomatic');
417
418 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
419 VALUES ('S3456789', 19, TO_DATE('2022-10-21', 'YYYY-MM-DD'), TO_DATE('2032-10-21', 'YYYY-MM-DD'), 'Civilian');
420
421 INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
422 VALUES ('T3456789', 20, TO_DATE('2022-06-01', 'YYYY-MM-DD'), TO_DATE('2032-06-01', 'YYYY-MM-DD'), 'Civilian');
```

```
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```

Using PL/SQL to Automate

Insert Data

```
DECLARE
    v_account_number VARCHAR(50) := 123456789089;
    v_customer_id INT := 4;
    v_bank_name VARCHAR(100) := 'ICICI Bank';
    v_branch_name VARCHAR(100) := 'Noida';
    v_ifsc_code VARCHAR(20) := 'ICIC0423901';
    v_status NUMBER(1) := 1;
BEGIN
    INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
    VALUES (v_account_number, v_customer_id, v_bank_name, v_branch_name, v_ifsc_code, v_status);
    COMMIT;
    DBMS_OUTPUT.PUT_LINE('Row inserted successfully.');
EXCEPTION
    WHEN OTHERS THEN
        DBMS_OUTPUT.PUT_LINE('Error inserting row: ' || SQLERRM);
        ROLLBACK;
END;
/
```

```
Statement processed.
Row inserted successfully.
```

```
SELECT * FROM CUSTOMER;
```

CUSTOMERID	FIRSTNAME	LASTNAME	DATEOFBIRTH	HOUSENUMBER	STREET	CITY	STATE	COUNTRY	PHONE	EMAIL
1	Aryan	Garg	01-JAN-00	1234	Main Street	New Delhi	Delhi	India	+91 9999999999	aryan.raj.garg@gmail.com
2	Sanya	Mishra	15-MAR-98	5678	Highway Road	Mumbai	Maharashtra	India	+91 8888888888	sanya.mishra@gmail.com
3	Rohit	Sharma	30-APR-87	9012	Park Avenue	Kolkata	West Bengal	India	+91 7777777777	rohit.sharma@gmail.com
4	Aditi	Jain	12-AUG-01	3456	Lake View	Chennai	Tamil Nadu	India	+91 6666666666	aditi.jain@gmail.com
5	Kunal	Khanna	20-MAY-90	7890	Garden Lane	Bengaluru	Karnataka	India	+91 5555555555	kunal.khanna@gmail.com

Delete Data

```
DECLARE
  v_column_name VARCHAR2(50) := 'CUSTOMERID';
  v_condition VARCHAR2(200) := '1';
BEGIN
  -- Delete rows from the Customer table based on the user input
  EXECUTE IMMEDIATE 'DELETE FROM Customer WHERE ' || v_column_name || ' = ' || v_condition;
  COMMIT;

  DBMS_OUTPUT.PUT_LINE('Rows deleted successfully.');
EXCEPTION
  WHEN OTHERS THEN
    DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);
END;

SELECT * FROM CUSTOMER;
```

CUSTOMERID	FIRSTNAME	LASTNAME	DATEOFBIRTH	HOUSENUMBER	STREET	CITY	STATE	COUNTRY	PHONE	EMAIL
2	Sanya	Mishra	15-MAR-98	5678	Highway Road	Mumbai	Maharashtra	India	+91 8888888888	sanya.mishra@gmail.com
3	Rohit	Sharma	30-APR-87	9012	Park Avenue	Kolkata	West Bengal	India	+91 7777777777	rohit.sharma@gmail.com
4	Aditi	Jain	12-AUG-01	3456	Lake View	Chennai	Tamil Nadu	India	+91 6666666666	aditi.jain@gmail.com
5	Kunal	Khanna	20-MAY-90	7890	Garden Lane	Bengaluru	Karnataka	India	+91 5555555555	kunal.khanna@gmail.com

Update Data

```
DECLARE
  v_column_name VARCHAR2(50) := 'FIRSTNAME';
  v_new_value VARCHAR2(50) := '''Adyti''';
  v_condition VARCHAR2(200) := '''Aditi''';
BEGIN
  -- Update rows in the Customer table based on the user input
  EXECUTE IMMEDIATE 'UPDATE Customer SET ' || v_column_name || ' = ' || v_new_value || ' WHERE ' || v_column_name || ' = ' || v_condition
  COMMIT;

  DBMS_OUTPUT.PUT_LINE('Rows updated successfully.');
EXCEPTION
  WHEN OTHERS THEN
    DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);
END;
```

```
Statement processed.
Rows updated successfully.
```

```

SELECT * FROM CUSTOMER;
```

CUSTOMERID	FIRSTNAME	LASTNAME	DATEOFBIRTH	HOUSENUMBER	STREET	CITY	STATE	COUNTRY	PHONE	EMAIL
2	Sanya	Mishra	15-MAR-98	5678	Highway Road	Mumbai	Maharashtra	India	+91 8888888888	sanya.mishra@gmail.com
3	Rohit	Sharma	30-APR-87	9012	Park Avenue	Kolkata	West Bengal	India	+91 7777777777	rohit.sharma@gmail.com
4	Adyti	Jain	12-AUG-01	3456	Lake View	Chennai	Tamil Nadu	India	+91 6666666666	aditi.jain@gmail.com
5	Kunal	Khanna	20-MAY-90	7890	Garden Lane	Bengaluru	Karnataka	India	+91 5555555555	kunal.khanna@gmail.com

Conclusion

In this project, we have created a database consisting of six tables, populated data using PL/SQL, and ran queries to retrieve information from the database.

Firstly, we designed the database schema and identified the relationships between the tables. We ensured each table had a primary key and created foreign keys to establish relationships between the tables. Next, we used PL/SQL to populate the tables with data. We created stored procedures to insert data into each table, ensuring we followed the referential integrity constraints. We also included error handling in our procedures to prevent data inconsistencies. Finally, we ran queries to retrieve information from the database. We used SQL statements to retrieve data from multiple tables, joined tables to retrieve related data, and used aggregate functions to calculate summary statistics.

Overall, this project has given us valuable learning experience in database design, PL/SQL programming, and SQL querying. By creating a database schema, inserting data using stored procedures, and querying the data, we have gained a deeper understanding of how databases are designed, managed, and queried.
We have also learned how to ensure data consistency and integrity by enforcing referential integrity constraints and including error handling in our code.

In conclusion, this project has been a challenging and rewarding experience, providing us with the knowledge and skills to create and manage databases and query data using SQL statements. We look forward to applying these skills in future projects and continuing to learn more about database management and querying.

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