

# **Government Document Payment Database - Final Project**

## **Submitted for Database Management System (UCS310)**

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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.

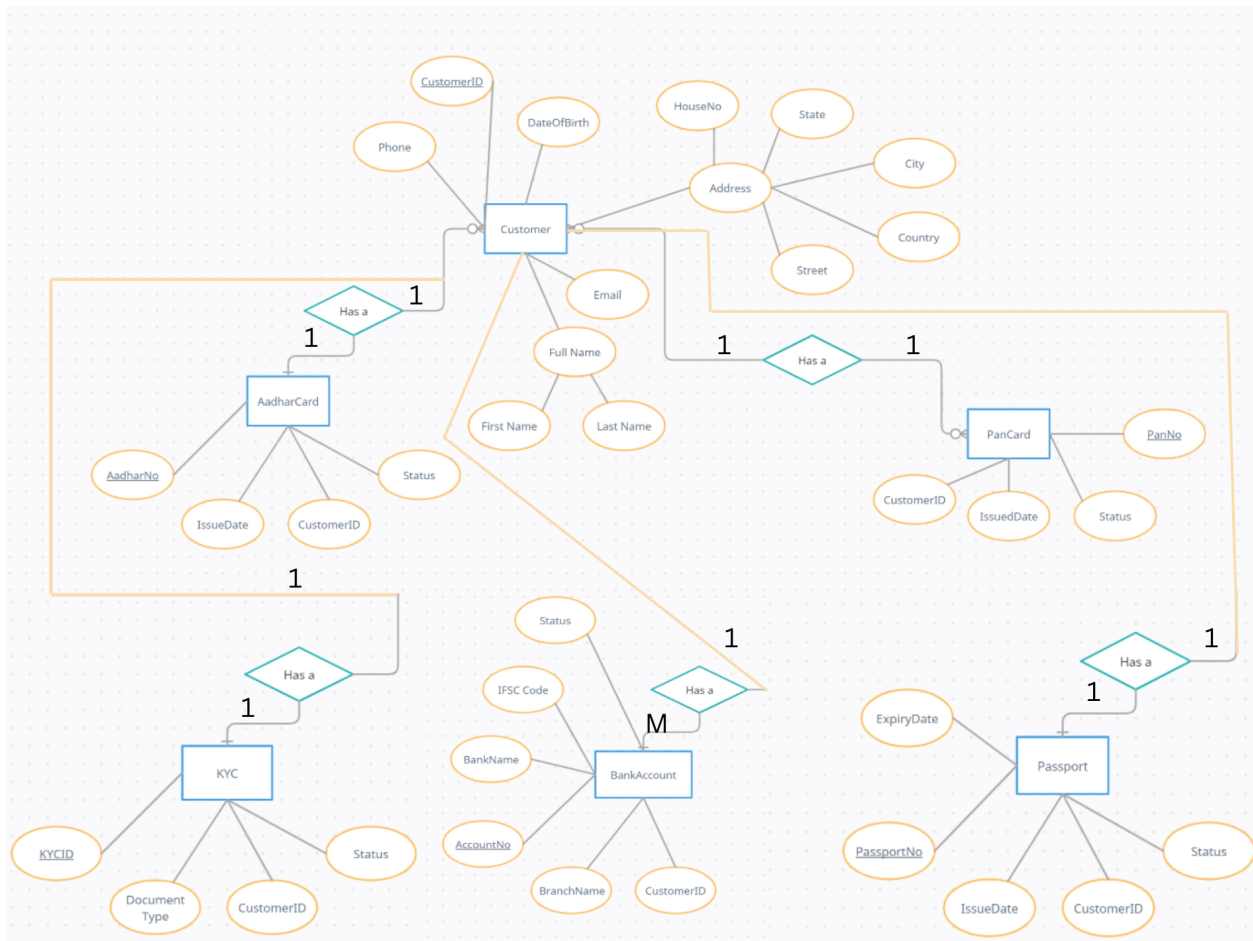
## Requirement Analysis:

- 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.

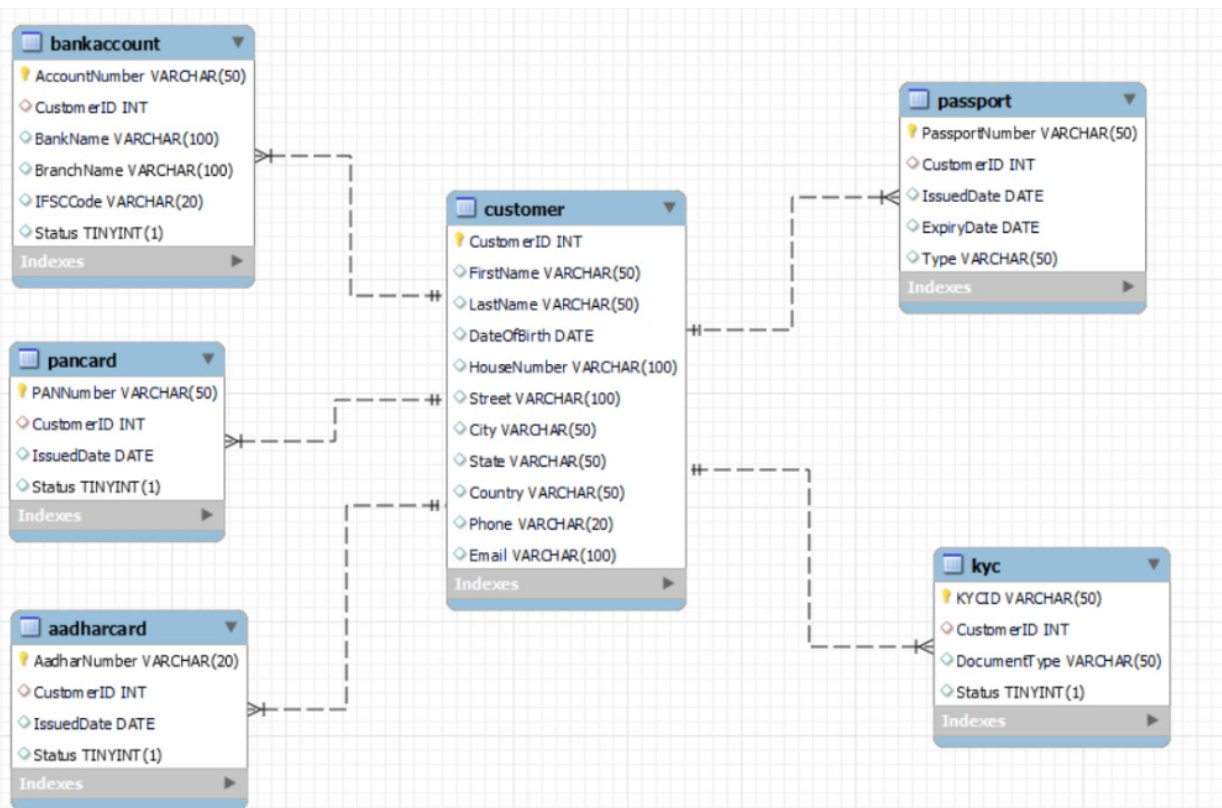
The Government Document Payment Database will have the following functionalities:

- 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



# ER to Table



# 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

```
1 CREATE TABLE Customer (  
2     CustomerID INT PRIMARY KEY,  
3     FirstName VARCHAR(50),  
4     LastName VARCHAR(50),  
5     DateOfBirth DATE,  
6     HouseNumber VARCHAR(100),  
7     Street VARCHAR(100),  
8     City VARCHAR(50),  
9     State VARCHAR(50),  
10    Country VARCHAR(50),  
11    Phone VARCHAR(20),  
12    Email VARCHAR(100),  
13    UNIQUE (Email),  
14    UNIQUE (Phone)  
15 );  
16  
  
18 CREATE TABLE PANCard (  
19     PANNumber VARCHAR(50) PRIMARY KEY,  
20     CustomerID INT,  
21     IssuedDate DATE,  
22     Status NUMBER(1) CHECK (Status IN (0, 1)),  
23     FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID) ON DELETE CASCADE,  
24     CHECK (IssuedDate >= TO_DATE('1972-01-01', 'YYYY-MM-DD'))  
25 );  
26  
  
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

```
75 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
76 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');
77
78 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
79 VALUES (2, 'Sanya', 'Mishra', TO_DATE('1998-03-15', 'YYYY-MM-DD'), '5678', 'Highway Road', 'Mumbai', 'Maharashtra', 'India', '+91 8888888888', 'sanya.mishra@gmail.com');
80
81 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
82 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');
83
84 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
85 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');
86
87 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
88 VALUES (5, 'Kunal', 'Khanna', TO_DATE('1990-05-20', 'YYYY-MM-DD'), '7890', 'Garden Lane', 'Bengaluru', 'Karnataka', 'India', '+91 5555555555', 'kunal.khanna@gmail.com');
89
--
90
91 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
92 VALUES
93 (6, 'Aarav', 'Shah', TO_DATE('1990-01-01', 'YYYY-MM-DD'), '111', '123 Main St', 'Mumbai', 'Maharashtra', 'India', '1234567890', 'aarav.shah@gmail.com');
94
95 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
96 VALUES
97 (7, 'Isha', 'Patel', TO_DATE('1985-05-15', 'YYYY-MM-DD'), '123', '456 Oak Ave', 'Ahmedabad', 'Gujarat', 'India', '9876543210', 'isha.patel@gmail.com');
98
99 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
100 VALUES
101 (8, 'Aryan', 'Desai', TO_DATE('1978-11-30', 'YYYY-MM-DD'), '321', '789 Elm St', 'Pune', 'Maharashtra', 'India', '5555551212', 'aryan.desai@gmail.com');
102
103 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
104 VALUES
105 (9, 'Riya', 'Mehta', TO_DATE('1995-03-22', 'YYYY-MM-DD'), '421', '321 Maple Dr', 'Delhi', 'Delhi', 'India', '4444441234', 'riya.mehta@gmail.com');
106
107 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
108 VALUES
109 (10, 'Kabir', 'Gupta', TO_DATE('1982-07-12', 'YYYY-MM-DD'), '432', '567 Pine St', 'Kolkata', 'West Bengal', 'India', '7777777777', 'kabir.gupta@gmail.com');
110
111 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
112 VALUES
113 (11, 'Ayesha', 'Singh', TO_DATE('1998-02-14', 'YYYY-MM-DD'), '555', '111 Birch Rd', 'Jaipur', 'Rajasthan', 'India', '2222222222', 'ayasha.singh@gmail.com');
114
115 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
116 VALUES
117 (12, 'Arjun', 'Jain', TO_DATE('1976-09-05', 'YYYY-MM-DD'), '465', '222 Cedar Ave', 'Chennai', 'Tamil Nadu', 'India', '3333333333', 'arjun.jain@gmail.com');
118
119 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
120 VALUES
121 (13, 'Sneha', 'Kumar', TO_DATE('1989-12-18', 'YYYY-MM-DD'), '666', '444 Oak St', 'Hyderabad', 'Telangana', 'India', '8888888888', 'sneha.kumar@gmail.com');
122
123 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
124 VALUES
125 (14, 'Rahul', 'Verma', TO_DATE('1991-06-10', 'YYYY-MM-DD'), '665', '777 Maple Rd', 'Bengaluru', 'Karnataka', 'India', '9999999999', 'rahul.verma@gmail.com');
126
127 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseLumber, Street, City, State, Country, Phone, Email)
128 VALUES
129 (15, 'Priya', 'Nair', TO_DATE('1980-04-25', 'YYYY-MM-DD'), '531', '999 Elm Ave', 'Thiruvananthapuram', 'Kerala', 'India', '1111111111', 'priya.nair@gmail.com');
130
131
132 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
133 VALUES
134 (16, 'Amit', 'Rao', TO_DATE('1973-08-07', 'YYYY-MM-DD'), '901', '888 Pine Rd', 'Chandigarh', 'Chandigarh', 'India', '7777771777', 'amit.rao@gmail.com');
135
136 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
137 VALUES
138 (17, 'Neha', 'Saxena', TO_DATE('1993-01-12', 'YYYY-MM-DD'), '765', '666 Maple St', 'Lucknow', 'Uttar Pradesh', 'India', '4444444444', 'neha.saxena@gmail.com');
139
140 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
141 VALUES
142 (18, 'Rohan', 'Gandhi', TO_DATE('1987-12-01', 'YYYY-MM-DD'), '851', '555 Cedar Dr', 'Indore', 'Madhya Pradesh', 'India', '2322222222', 'rohan.gandhi@email.com');
143
144 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
145 VALUES
146 (19, 'Aditi', 'Singh', TO_DATE('1996-09-25', 'YYYY-MM-DD'), '472', '789 Oak St', 'Jaipur', 'Rajasthan', 'India', '1111222222', 'aditisingh@gmail.com');
147
148 ✓ INSERT INTO Customer (CustomerID, FirstName, LastName, DateOfBirth, HouseNumber, Street, City, State, Country, Phone, Email)
149 VALUES
150 (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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```
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);
```

```
474
142 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
143 VALUES
144 ('ABCDE12345', 6, TO_DATE('2022-01-01', 'YYYY-MM-DD'), 1);
145
146 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
147 VALUES
148 ('ABCDE23456', 7, TO_DATE('2022-02-01', 'YYYY-MM-DD'), 0);
149
150 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
151 VALUES
152 ('ABCDE34567', 8, TO_DATE('2022-03-01', 'YYYY-MM-DD'), 1);
153
154 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
155 VALUES
156 ('ABCDE45678', 9, TO_DATE('2022-04-01', 'YYYY-MM-DD'), 0);
157
158 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
159 VALUES
160 ('ABCDE56789', 10, TO_DATE('2022-05-01', 'YYYY-MM-DD'), 1);
161
162 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
163 VALUES
164 ('ABCDE67890', 11, TO_DATE('2022-06-01', 'YYYY-MM-DD'), 0);
165
166 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
167 VALUES
168 ('ABCDE78901', 12, TO_DATE('2022-07-01', 'YYYY-MM-DD'), 1);
169
170 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
171 VALUES
172 ('ABCDE89012', 13, TO_DATE('2022-08-01', 'YYYY-MM-DD'), 0);
173
174 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
175 VALUES
176 ('ABCDE90123', 14, TO_DATE('2022-09-01', 'YYYY-MM-DD'), 1);
177
178 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
179 VALUES
180 ('ABCDE01234', 15, TO_DATE('2022-10-01', 'YYYY-MM-DD'), 0);
181
182
182 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
183 VALUES
184 ('ABCDE12347', 16, TO_DATE('2022-11-01', 'YYYY-MM-DD'), 1);
185
186 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
187 VALUES
188 ('ABCDE23458', 17, TO_DATE('2022-12-01', 'YYYY-MM-DD'), 0);
189
190 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
191 VALUES
192 ('ABCDE34569', 18, TO_DATE('2023-01-01', 'YYYY-MM-DD'), 1);
193
194 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
195 VALUES
196 ('ABCDE45670', 19, TO_DATE('2023-02-01', 'YYYY-MM-DD'), 0);
197
198 INSERT INTO PANCard (PANNumber, CustomerID, IssuedDate, Status)
199 VALUES
200 ('ABCDE56781', 20, TO_DATE('2023-03-01', 'YYYY-MM-DD'), 1);
201
```

1 row(s) inserted.  
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1 row(s) inserted.

```
105 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
106 VALUES ('11112223333', 1, TO_DATE('2020-01-01', 'YYYY-MM-DD'), 1);
107
108 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
109 VALUES ('44455556666', 2, TO_DATE('2019-02-14', 'YYYY-MM-DD'), 1);
110
111 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
112 VALUES ('77778889999', 3, TO_DATE('2018-03-27', 'YYYY-MM-DD'), 0);
113
114 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
115 VALUES ('101112131415', 4, TO_DATE('2017-04-30', 'YYYY-MM-DD'), 1);
116
117 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
118 VALUES ('161718192021', 5, TO_DATE('2016-05-15', 'YYYY-MM-DD'), 1);
119
```

```
120
121
122 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
123 VALUES ('11112223333', 6, TO_DATE('2016-10-01', 'YYYY-MM-DD'), 1);
124
125 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
126 VALUES ('44455556666', 7, TO_DATE('2011-03-15', 'YYYY-MM-DD'), 0);
127
128 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
129 VALUES ('77778889999', 8, TO_DATE('2012-05-22', 'YYYY-MM-DD'), 1);
130
131 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
132 VALUES ('121212121212', 9, TO_DATE('2013-01-01', 'YYYY-MM-DD'), 0);
133
134 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
135 VALUES ('343434343434', 10, TO_DATE('2014-07-05', 'YYYY-MM-DD'), 1);
136
137 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
138 VALUES ('565656565656', 11, TO_DATE('2015-11-11', 'YYYY-MM-DD'), 0);
139
140 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
141 VALUES ('787878787878', 12, TO_DATE('2016-09-01', 'YYYY-MM-DD'), 1);
142
143 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
144 VALUES ('909090909090', 13, TO_DATE('2017-08-20', 'YYYY-MM-DD'), 0);
145
146 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
147 VALUES ('232323232323', 14, TO_DATE('2018-04-25', 'YYYY-MM-DD'), 1);
148
149 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
150 VALUES ('454545454545', 15, TO_DATE('2019-02-14', 'YYYY-MM-DD'), 0);
151
152 v INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
153 VALUES ('676767676767', 16, TO_DATE('2020-06-30', 'YYYY-MM-DD'), 1);
154
```

```

247 ✓ INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
248 VALUES
249     ('898989898989', 17, TO_DATE('2021-01-05', 'YYYY-MM-DD'), 0);
250
251 ✓ INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
252 VALUES
253     ('123212121212', 18, TO_DATE('2022-03-08', 'YYYY-MM-DD'), 1);
254
255 ✓ INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
256 VALUES
257     ('341434343434', 19, TO_DATE('2023-04-11', 'YYYY-MM-DD'), 0);
258
259 ✓ INSERT INTO AadharCard (AadharNumber, CustomerID, IssuedDate, Status)
260 VALUES
261     ('561656565656', 20, TO_DATE('2024-05-14', 'YYYY-MM-DD'), 1);
262

```

1 row(s) inserted.

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```

120 ✓ INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
121 VALUES ('1234567890', 1, 'HDFC Bank', 'Koramangala', 'HDFC0000123', 1);
122
123 ✓ INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
124 VALUES ('0987654321', 2, 'ICICI Bank', 'Indiranagar', 'ICIC0000456', 1);
125
126 ✓ INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
127 VALUES ('7777777777', 3, 'SBI', 'MG Road', 'SBI00001234', 0);
128
129 ✓ INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
130 VALUES ('1111111111', 4, 'Axis Bank', 'Jayanagar', 'AXIS0000456', 1);
131
132 ✓ INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
133 VALUES ('2222222222', 5, 'Kotak Mahindra Bank', 'Bannerghatta Road', 'KKBK0001234', 1);
134
135 ✓ INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
136 VALUES ('5555666677778888', 3, 'Axis Bank', 'Koramangala Branch', 'UTI00000123', 1);

```

```

138 ✓ INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
139 VALUES ('4444333322221111', 3, 'Kotak Mahindra Bank', 'Indiranagar Branch', 'KKBK0000654', 1);
140
141 ✓ INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
142 VALUES ('9876543210987654', 1, 'ICICI Bank', 'Infantry Road Branch', 'ICIC0000987', 1);
143
144 ✓ INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
145 VALUES ('111122233334444', 1, 'SBI Bank', 'Brigade Road Branch', 'SBI00004321', 1);
146

```

```

265 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
266 VALUES ('1234567890123456', 6, 'ICICI Bank', 'Mumbai Branch', 'ICIC0000001', 1);
267
268 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
269 VALUES
270 ('2345678901234567', 7, 'HDFC Bank', 'Delhi Branch', 'HDFC0000002', 0);
271
272 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
273 VALUES
274 ('3456789012345678', 8, 'Axis Bank', 'Bangalore Branch', 'UTIB0000003', 1);
275
276 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
277 VALUES
278 ('4567890123456789', 9, 'SBI', 'Kolkata Branch', 'SBIIN0000004', 0);
279
280 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
281 VALUES
282 ('5678901234567890', 10, 'PNB', 'Chennai Branch', 'PUNB0000005', 1);
283
284 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
285 VALUES
286 ('6789012345678901', 11, 'Citi Bank', 'Pune Branch', 'CITI0000006', 0);
287
288 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
289 VALUES
290 ('7890123456789012', 12, 'Bank of Baroda', 'Ahmedabad Branch', 'BARB0000007', 1);
291
292 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
293 VALUES
294 ('8901234567890123', 13, 'Yes Bank', 'Hyderabad Branch', 'YESB0000008', 0);
295
296 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
297 VALUES
298 ('9012345678901234', 14, 'Canara Bank', 'Lucknow Branch', 'CNRB0000009', 1);
299
300 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
301 VALUES
302 ('6381946552819361', 15, 'IndusInd Bank', 'Jaipur Branch', 'INDB0000010', 0)
303
304
305 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
306 VALUES
307 ('5926453728181928', 16, 'Kotak Mahindra Bank', 'Kochi Branch', 'KXBK0000011', 1);
308
309 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
310 VALUES
311 ('1224642762411112', 17, 'Central Bank of India', 'Guwahati Branch', 'CBIN0000012', 0);
312
313 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
314 VALUES
315 ('52413363791037363', 18, 'Union Bank of India', 'Raipur Branch', 'UBIN0000013', 1);
316
317 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
318 VALUES
319 ('3152638400472614', 19, 'IDFC First Bank', 'Bhubaneswar Branch', 'IDFB0000014', 0);
320
321 v INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
322 VALUES
323 ('1224365658292913', 20, 'Federal Bank', 'Dehradun Branch', 'FDRL0000015', 1);
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147 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
148 VALUES ('KYC001', 1, 'PAN', 1);
149
150 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
151 VALUES ('KYC002', 2, 'Aadhar', 1);
152
153 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
154 VALUES ('KYC003', 3, 'Passport', 0);
155
156 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
157 VALUES ('KYC004', 4, 'PAN', 1);
158
159 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
160 VALUES ('KYC005', 5, 'Aadhar', 0);

325 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
326 VALUES
327 ('KYC06', 6, 'PAN', 1);
328 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
329 VALUES
330 ('KYC07', 7, 'Aadhar', 0);
331 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
332 VALUES
333 ('KYC08', 8, 'Passport', 1);
334 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
335 VALUES
336 ('KYC09', 9, 'PAN', 1);
337 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
338 VALUES
339 ('KYC10', 10, 'Aadhar', 0);
340 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
341 VALUES
342 ('KYC11', 11, 'Passport', 1);
343 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
344 VALUES
345 ('KYC12', 12, 'PAN', 0);
346 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
347 VALUES
348 ('KYC13', 13, 'Aadhar', 1);
349 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
350 VALUES
351 ('KYC14', 14, 'Passport', 0);
352 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
353 VALUES
354 ('KYC15', 15, 'PAN', 1);
355 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
356 VALUES
357 ('KYC16', 16, 'Aadhar', 1);
358 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
359 VALUES
360 ('KYC17', 17, 'Passport', 0);
361 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
362 VALUES
363 ('KYC18', 18, 'PAN', 0);

364 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
365 VALUES
366 ('KYC19', 19, 'Aadhar', 1);
367 v INSERT INTO KYC (KYCID, CustomerID, DocumentType, Status)
368 VALUES
369 ('KYC20', 20, 'Passport', 1);
370

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162 v INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
163 VALUES ('A1234567', 1, TO_DATE('2021-01-01', 'YYYY-MM-DD'), TO_DATE('2031-01-01', 'YYYY-MM-DD'), 'Civilian');
164
165 v INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
166 VALUES ('B2345678', 2, TO_DATE('2019-05-01', 'YYYY-MM-DD'), TO_DATE('2029-05-01', 'YYYY-MM-DD'), 'Official');
167
168 v INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
169 VALUES ('C3456789', 3, TO_DATE('2022-10-01', 'YYYY-MM-DD'), TO_DATE('2032-10-01', 'YYYY-MM-DD'), 'Diplomatic');

```

```

372
373 v 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 v 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 v INSERT INTO Passport (PassportNumber, CustomerID, IssuedDate, ExpiryDate, Type)
380 VALUES ('F3456789', 6, TO_DATE('2018-10-05', 'YYYY-MM-DD'), TO_DATE('2020-10-05', 'YYYY-MM-DD'), 'Official');
381
382 v 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 v 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 v 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 v 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 v 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 v 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 v 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 v 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 v 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 v 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 v 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 v 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 v 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 v 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

```
171 v DECLARE
172     v_account_number VARCHAR(50) := 123456789089;
173     v_customer_id INT := 4;
174     v_bank_name VARCHAR(100) := 'ICICI Bank';
175     v_branch_name VARCHAR(100) := 'Noida';
176     v_ifsc_code VARCHAR(20) := 'ICIC0423901';
177     v_status NUMBER(1) := 1;
178 v BEGIN
179     INSERT INTO BankAccount (AccountNumber, CustomerID, BankName, BranchName, IFSCCode, Status)
180     VALUES (v_account_number, v_customer_id, v_bank_name, v_branch_name, v_ifsc_code, v_status);
181     COMMIT;
182     DBMS_OUTPUT.PUT_LINE('Row inserted successfully.');
```

183 v EXCEPTION

```
184     WHEN OTHERS THEN
185         DBMS_OUTPUT.PUT_LINE('Error inserting row: ' || SQLERRM);
186         ROLLBACK;
187     END;
188 /
189
190
```

Statement processed.  
Row inserted successfully.

```
193
194 SELECT * FROM CUSTOMER;
195
```

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

```
194 DECLARE
195     v_column_name VARCHAR2(50) := 'CUSTOMERID';
196     v_condition VARCHAR2(200) := '1';
197 BEGIN
198     -- Delete rows from the Customer table based on the user input
199     EXECUTE IMMEDIATE 'DELETE FROM Customer WHERE ' || v_column_name || ' = ' || v_condition;
200     COMMIT;
201
202     DBMS_OUTPUT.PUT_LINE('Rows deleted successfully.');
```

```
203 EXCEPTION
204 WHEN OTHERS THEN
205     DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);
206 END;
```

```
207
208 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

```
212 DECLARE
213     v_column_name VARCHAR2(50) := 'FIRSTNAME';
214     v_new_value VARCHAR2(50) := 'Adyti';
215     v_condition VARCHAR2(200) := 'Aditi';
216 BEGIN
217     -- Update rows in the Customer table based on the user input
218     EXECUTE IMMEDIATE 'UPDATE Customer SET ' || v_column_name || ' = ' || v_new_value || ' WHERE ' || v_column_name || ' = ' || v_condition;
219     COMMIT;
220
221     DBMS_OUTPUT.PUT_LINE('Rows updated successfully.');
```

```
222 EXCEPTION
223 WHEN OTHERS THEN
224     DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);
225 END;
```

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

```
227
228 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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