Google Accounts Database

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Problem Statement:

The project includes keeping a detailed record of the Google account of a pool of users. We will particularly be focusing on their Gmail, Google Docs, Google Contacts directory and Google Photos. The database system will manage the space used by each Google account by keeping a track of the emails drafted,sent,received,etc, along with the private and shared documents, contacts, and photos on the respective platforms.

Entities involved:
1. Account
2. Folder
3. Mail
4. Photos (weak entity)
5. PDFs (weak entity)
6. Docs (weak entity)

Acknowledgement

The successful completion of our DBMS project would not have been possible without the unwavering support and guidance of several individuals. We express our heartfelt gratitude to our teachers and mentors for their constant encouragement, valuable insights, and patient guidance throughout this project.
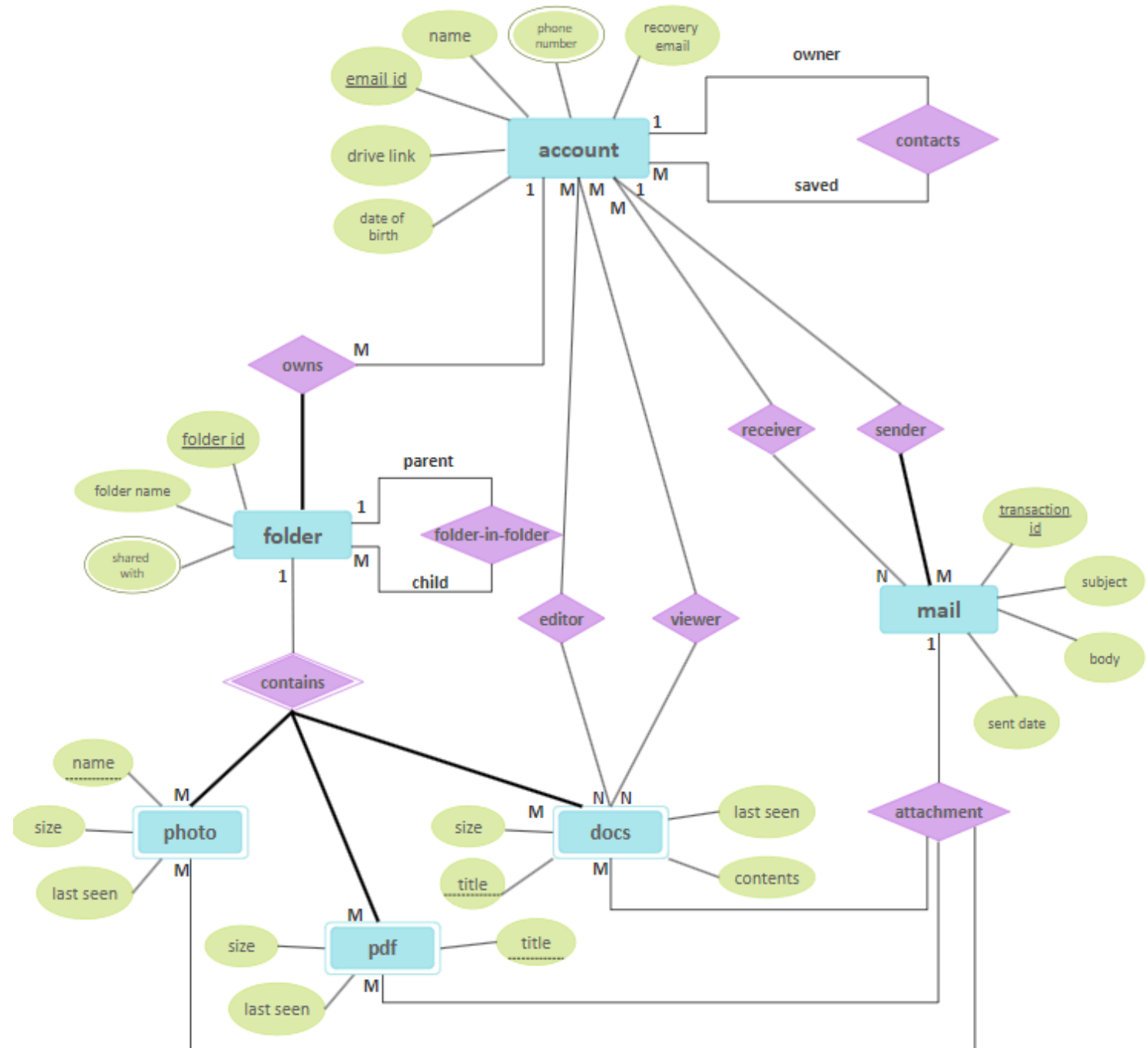
This project has been an enriching experience, allowing us to apply theoretical concepts from our DBMS coursework into practical implementation. It deepened our understanding of database design, query optimization, and data modeling. Working collaboratively on this project enhanced our teamwork skills, problem-solving abilities, and project management techniques.

In summary, this DBMS project has been an invaluable learning journey, and we are grateful for the opportunity to apply classroom knowledge to real-world scenarios.
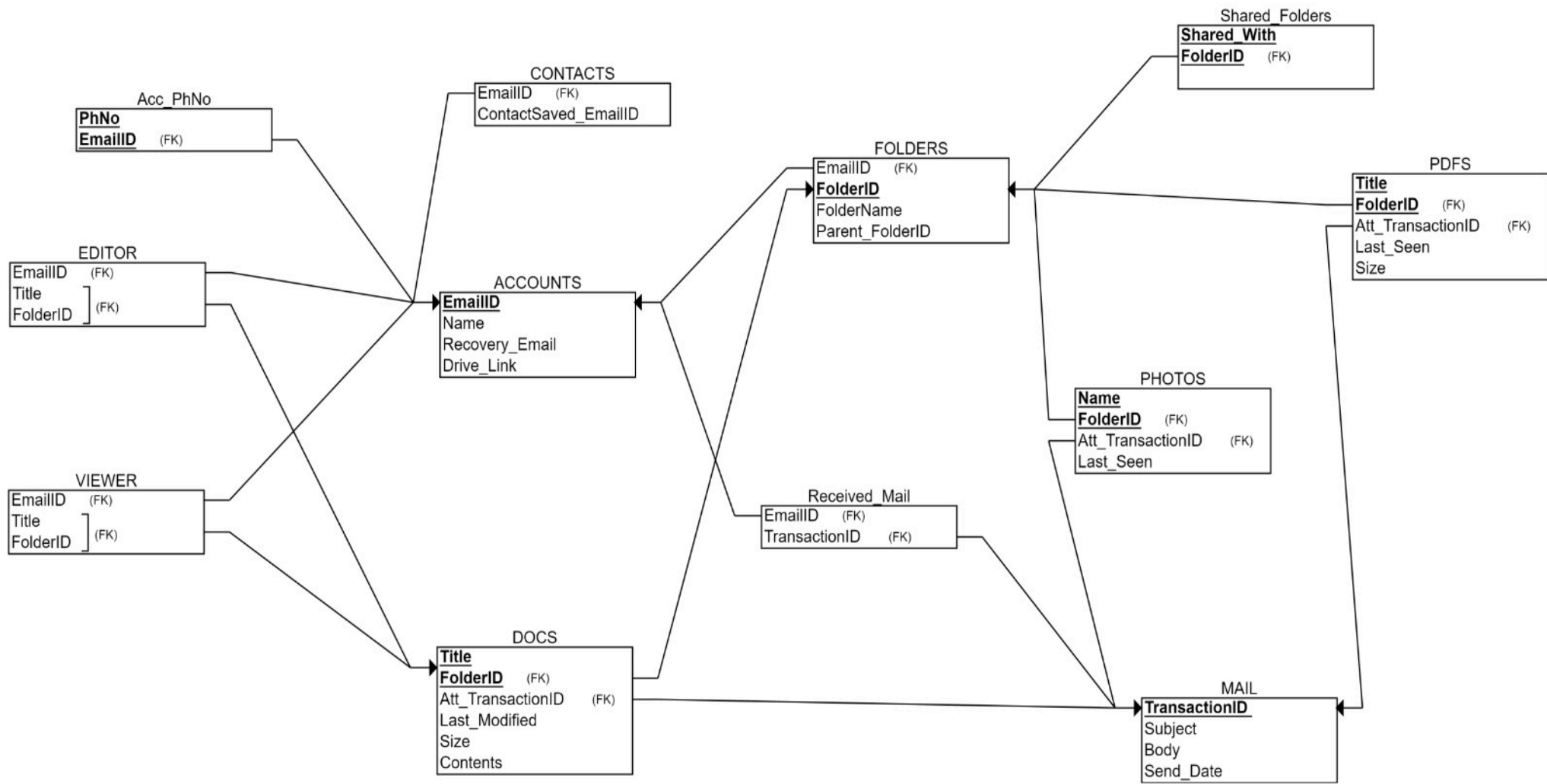
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ER Diagram

Assumptions:

- Contacts of only those email id can be saved which are already saved in the database.
- Folders and files can only be shared with and given access to those email ids that exist in the database.
- Emails can be sent and received by only those email ids that are present in the database.
- Darker, thicker lines are used in place of double lines to indicate full participation in terms of relation.

Relational Schema

Shared_Folders
Shared_With
FolderID (FK)

CONTACTS
EmailID (FK)
ContactSaved_EmailID

Acc_PhNo
PhNo
EmailID (FK)

FOLDERS
EmailID (FK)
FolderID
FolderName
Parent_FolderID

PDFS
Title
FolderID (FK)
Att_TransactionID (FK)
Last_Seen
Size

EDITOR
EmailID (FK)
Title
FolderID (FK)

ACCOUNTS
EmailID
Name
Recovery_Email
Drive_Link

PHOTOS
Name
FolderID (FK)
Att_TransactionID (FK)
Last_Seen

VIEWER
EmailID (FK)
Title
FolderID (FK)

Received_Mail
EmailID (FK)
TransactionID (FK)

DOCS
Title
FolderID (FK)
Att_TransactionID (FK)
Last_Modified
Size
Contents

MAIL
TransactionID
Subject
Body
Send_Date

Normalization

Normalization is the process of organizing data in a database. It includes creating tables and establishing relationships between those tables according to rules designed both to protect the data and to make the database more flexible by eliminating partial dependencies and transitive and inconsistent dependencies.

In a nutshell,
- 1NF (First Normal Form): A relation is in 1NF if it contains atomic values (no multi-valued attributes).
- 2NF (Second Normal Form): A relation is in 2NF if it's in 1NF and all non-key attributes are fully functional dependent on the primary key.
- 3NF (Third Normal Form): A relation is in 3NF if it's in 2NF and no transitive dependency exists.
- BCNF (Boyce-Codd Normal Form): A stronger definition of 3NF that ensures no partial dependency on the primary key

Now, we will normalize the relational model of our sample database. Let's look at each entity at a time :

1. Account
2. Mail
3. Folders
4. Acc_PhoneNo
5. Shared_Folders
6. Contacts
7. Photos
8. Docs
9. PDFs
10. Editor
11. Viewer
12. Received_Mail

1. Account

EmailID → {Name, DOB, Recovery_Email ,Drive_Link}

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

2. Mail

TransactionID→ {Subject, Body, Send_Date, Sender_emailID}

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

3. Folders

FolderID → {Folder_Name}

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

4. Acc_PhoneNo

EmailID → { }
PhNo → { }

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

5. Shared_Folders

FolderID → { }
Shared_With → { }

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

6. Photos

(FolderID, Name) → { Size,Last_Seen }

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

7. Docs

(FolderID,Title) → { Last_Modified, Size, Contents }

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

8. PDFs

(FolderID,Title) → { Size, Last_Seen }

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

9. Editor

(FolderID, EmailID, Title) → { }

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

10. Viewer

(FolderID, EmailID, Title) → { }

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

11. Contacts

(EmailID, ContactSaved_EmailID) → { }

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

12. Received_Mail

(EmailID, TransactionID) → { }

- There are only atomic attributes and a primary key exists
  => It is in **1NF**

- There are no partial dependencies and it is in 1NF
  => It is in **2NF**

- There are no transitive dependencies and it is in 2NF
  => It is in **3NF**

- All the dependencies are from the candidate key and it is in 3NF
  => It is in **BCNF**

Creation of Tables

Now that our tables have been normalized, we can proceed towards actualizing our database in SQL.

```
CREATE TABLE ACCOUNTS(
EmailID VARCHAR(25) PRIMARY KEY,
Acc_Name VARCHAR(10),
DOB DATE,
Recovery_EmailID VARCHAR(25),
Drive_Link VARCHAR(25)
) ;


CREATE TABLE MAIL(
TransactionID NUMBER(10) PRIMARY KEY,
Subject VARCHAR(25),
Mail_Body VARCHAR(200),
Send_Date DATE not null,
Sender_emailID varchar(25) not null
);


CREATE TABLE FOLDERS(
FolderID NUMBER(10),
FolderName VARCHAR(25)not null,
EmailID VARCHAR(25),
Parent_FolderID NUMBER(10),

PRIMARY KEY (FolderID),
FOREIGN KEY (EmailID) REFERENCES ACCOUNTS(EmailID),
FOREIGN KEY (Parent_FolderID) REFERENCES FOLDERS(FolderID)
);


CREATE TABLE Acc_PhNo(
EmailID VARCHAR(25),
PhNo NUMBER(10),
```

```
PRIMARY KEY(EmailID,PhNo)
);


CREATE TABLE SHARED_FOLDERS(
FolderID NUMBER(10),
Shared_With VARCHAR(25),
PRIMARY KEY (FolderID, Shared_With)
);


CREATE TABLE PHOTOS(
FolderID NUMBER(10),
Photo_Name VARCHAR(10),
Photo_Size NUMBER(5),
Last_Seen TIMESTAMP,
Att_TransactionID NUMBER(10),

FOREIGN KEY (Att_TransactionID) REFERENCES MAIL(TransactionID),
PRIMARY KEY(FolderID,Photo_Name)
);


CREATE TABLE DOCS(
FolderID NUMBER(10),
Title VARCHAR(10),
Last_Modified TIMESTAMP,
Doc_Size NUMBER(5),
Doc_Content VARCHAR(200),
Att_TransactionID NUMBER(10),

PRIMARY KEY (FolderID,Title),
FOREIGN KEY (Att_TransactionID) REFERENCES MAIL(TransactionID)
);


CREATE TABLE PDFS(
FolderID NUMBER(10),
Title VARCHAR(10),
Last_Seen TIMESTAMP,
PDF_Size NUMBER(5),
```

```
Att_TransactionID NUMBER(10),

PRIMARY KEY (FolderID,Title),
FOREIGN KEY (Att_TransactionID) REFERENCES MAIL(TransactionID)
);



CREATE TABLE EDITOR(
EmailID VARCHAR(25),
FolderID NUMBER(10),
Title VARCHAR(10),

FOREIGN KEY (EmailID) REFERENCES ACCOUNTS(EmailID),
FOREIGN KEY(FolderID,Title) REFERENCES DOCS(FolderID,Title)
);



CREATE TABLE VIEWER(
EmailID VARCHAR(25),
FolderID NUMBER(10),
Title VARCHAR(10),

FOREIGN KEY (EmailID) REFERENCES ACCOUNTS(EmailID),
FOREIGN KEY(FolderID,Title) REFERENCES DOCS(FolderID,Title)
);



CREATE TABLE CONTACTS(
EmailID VARCHAR(25),
ContactSaved_EmailID VARCHAR(25),

FOREIGN KEY (EmailID) REFERENCES ACCOUNTS(EmailID),
FOREIGN KEY (ContactSaved_EmailID) REFERENCES ACCOUNTS(EmailID)
);

CREATE TABLE RECEIVED_MAIL(
TransactionID NUMBER(10),
EmailID VARCHAR(25),
FOREIGN KEY (EmailID) REFERENCES ACCOUNTS(EmailID),
FOREIGN KEY(TransactionID) REFERENCES MAIL(TransactionID)
);
```

Insertion of Data

- Inserting data into the ACCOUNTS table:

INSERT INTO ACCOUNTS (EmailID, Acc_Name, DOB, Recovery_EmailID, Drive_Link) values ("nirbesra1039@gmail.com", "Nirmala Besra", "19-02-1989",null, "https://drive.google.com/drive/u/nirbesra1039");

INSERT INTO ACCOUNTS (EmailID, Acc_Name, DOB, Recovery_EmailID, Drive_Link) **values** ("nelson09@gmail.com", "Nelson Elvir", "27-12-1963","nelsonelvir@yahoo.com", "https://drive.google.com/drive/u/nelson09");

INSERT INTO ACCOUNTS (EmailID, Acc_Name, DOB, Recovery_EmailID, Drive_Link) **values** ("rbharti@gmail.com", "Raj Bharti", "03-05-2001","rjkid03@gmail.com", "https://drive.google.com/drive/u/rbharti");

INSERT INTO ACCOUNTS (EmailID, Acc_Name, DOB, Recovery_EmailID, Drive_Link) **values** ("smpersonal@gmail.com", "Suman Marandi", "08-08-1980", "smresearch@gmail.com","https://drive.google.com/drive/u/smpersonal");

INSERT INTO ACCOUNTS (EmailID, Acc_Name, DOB, Recovery_EmailID, Drive_Link) **values** ("anitag@gmail.com", "Anita Gadekar", "19-01-1987", "agagag@outlook.com","https://drive.google.com/drive/u/anitag");

INSERT INTO ACCOUNTS (EmailID, Acc_Name, DOB, Recovery_EmailID, Drive_Link) **values** ("rmishra58@gmail.com", "Rakesh Mishra", "05-08-1958",null, "https://drive.google.com/drive/u/rmishra");

INSERT INTO ACCOUNTS (EmailID, Acc_Name, DOB, Recovery_EmailID, Drive_Link) **values** ("simashukla89@gmail.com", "Sima Shukla", "18-11-1989","ss89@yahoo.com", "https://drive.google.com/drive/u/simashukla");

```
INSERT INTO ACCOUNTS (EmailID, Acc_Name, DOB, Recovery_EmailID,
Drive_Link) values ("michaelgard@gmail.com", "Michael Gardier",
"25-07-1995","mg22csb0f29@gmail.com",
"https://drive.google.com/drive/u/michaelgard");


INSERT INTO ACCOUNTS (EmailID, Acc_Name, DOB, Recovery_EmailID,
Drive_Link) values ("m0hteli@gmail.com", "Mohan Teli",
"14-12-2000","mtgamer@gmail.com",
"https://drive.google.com/drive/u/m0hteli");


INSERT INTO ACCOUNTS (EmailID, Acc_Name, DOB, Recovery_EmailID,
Drive_Link) values ("shafim45@gmail.com", "Mohammad Shafi",
"09-05-1991","moshaf3636@gmail.com",
"https://drive.google.com/drive/u/shafim45");
```

● Inserting data into CONTACTS table:

```
INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("nirbesra1039@gmail.com" , "smpersonal@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("nirbesra1039@gmail.com" , "anitag@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("nirbesra1039@gmail.com" , "simashukla89@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("nirbesra1039@gmail.com" , "michaelgard@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("nirbesra1039@gmail.com" , "shafim45@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("smpersonal@gmail.com", "nirbesra1039@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("smpersonal@gmail.com", "anitag@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("smpersonal@gmail.com", "shafim45@gmail.com");
INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("nelson09@gmail.com", "rmishra58@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("rbharti@gmail.com", "nelson09@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("rbharti@gmail.com", "rmishra58@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("rbharti@gmail.com", "m0hteli@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("m0hteli@gmail.com", "rmishra58@gmail.com");
```

```
INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("m0hteli@gmail.com", "rbharti@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("anitag@gmail.com", "shafim45@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("anitag@gmail.com", "michaelgard@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("anitag@gmail.com", "rmishra58@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("anitag@gmail.com", "nelson09@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("simashukla89@gmail.com", "smpersonal@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("simashukla89@gmail.com", "m0hteli@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("michaelgard@gmail.com", "nirbesra1039@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("michaelgard@gmail.com", "shafim45@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("shafim45@gmail.com", "nelson09@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("shafim45@gmail.com", "simashukla89@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("shafim45@gmail.com", "smpersonal@gmail.com");

INSERT INTO CONTACTS (EmailID, ContactSaved_EmailID)
values ("shafim45@gmail.com", "michaelgard@gmail.com");
```

- Inserting data into Acc_PhNo table:

```
INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("nirbesra1039@gmail.com", 7499392835);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("nelson09@gmail.com", 8355732155);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("nelson09@gmail.com", 3083395592);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("rbharti@gmail.com", 1974905887);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("smpersonal@gmail.com", 4383315461);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("smpersonal@gmail.com", 3419197876);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("anitag@gmail.com", 1410510946);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("rmishra@gmail.com", 0672630019);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("rmishra@gmail.com", 3845438210);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("simashukla89@gmail.com", 9853862314);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("michaelgard@gmail.com", 9465872790);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("michaelgard@gmail.com", 5871613218);

INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("m0hteli@gmail.com", 2947762457);
```

```
INSERT INTO Acc_PhNo (EmailID, PhNo)
values ("shafim45@gmail.com", 9035107998);
```

- Inserting data into the FOLDERS table:

```
INSERT INTO FOLDERS (FolderID, FolderName, EmailID,
Parent_FolderID)
values (101, "Fly Expt 1", "smpersonal@gmail.com", null);


INSERT INTO FOLDERS (FolderID, FolderName, EmailID,
Parent_FolderID)
values (114, "experiment 234", "simashukla89@gmail.com", null);


INSERT INTO FOLDERS (FolderID, FolderName, EmailID,
Parent_FolderID)
values (267, "behaviour 0.1", "smpersonal@gmail.com", 101);


INSERT INTO FOLDERS (FolderID, FolderName, EmailID,
Parent_FolderID)
values (90, "Chapter 1", "nelson09@gmail.com", null);


INSERT INTO FOLDERS (FolderID, FolderName, EmailID,
Parent_FolderID)
values (91, "homework 1", "nelson09@gmail.com", 90);


INSERT INTO FOLDERS (FolderID, FolderName, EmailID,
Parent_FolderID)
values (93, "homework 1 answer key", "nelson09@gmail.com", 91);
```

● Inserting data into SHARED_FOLDERS table:

```
INSERT INTO SHARED_FOLDERS (FolderID, Shared_With)
values (90, "rmishra58@gmail.com");

INSERT INTO SHARED_FOLDERS (FolderID, Shared_With)
values (91, "m0hteli@gmail.com");

INSERT INTO SHARED_FOLDERS (FolderID, Shared_With)
values (91, "rbharti@gmail.com");

INSERT INTO SHARED_FOLDERS (FolderID, Shared_With)
values (101, "simashukla89@gmail.com");

INSERT INTO SHARED_FOLDERS (FolderID, Shared_With)
values (101, "shifam45@gmail.com");

INSERT INTO SHARED_FOLDERS (FolderID, Shared_With)
values (101, "nirbesra1039@gmail.com");

INSERT INTO SHARED_FOLDERS (FolderID, Shared_With)
values (101, "michaelgard@gmail.com");

INSERT INTO SHARED_FOLDERS (FolderID, Shared_With)
values (267, "nirbesra1039@gmail.com");

INSERT INTO SHARED_FOLDERS (FolderID, Shared_With)
values (267, "anitag@gmail.com");
```

● Inserting data into the MAIL table:

```
INSERT INTO MAIL (TransactionID, Subject, Mail_Body, Send_Date,
Sender_emailID)
VALUES (6479, "Fly Expt observations", "I have attached the
results of the expts conducted over the past week. Please go
through them before the next meeting", "14-03-2024",
"smpersonal@gmail.com");


INSERT INTO MAIL (TransactionID, Subject, Mail_Body, Send_Date,
Sender_emailID)
VALUES (937482, "Homework Assignment", "Solve the questions
given in the folder that has been shared with you. Needs to be
submitted within the next 2 days.", "09-01-2024",
"nelson09@gmail.com");


INSERT INTO MAIL (TransactionID, Subject, Mail_Body, Send_Date,
Sender_emailID)
VALUES (863, null, "Dear Nelson, I request you to forward the
syllabus of your class urgently. Thanks and Regard, Mr.
Mishra.", "20-07-2023", "rmishra58@gmail.com");


INSERT INTO MAIL (TransactionID, Subject, Mail_Body, Send_Date,
Sender_emailID)
VALUES (48290, "Progress Check", "Im sending the pictures of the
state of the fungi as observed on 01-03-2024.", "05-03-2024",
"michaelgard@gmail.com");
```

- Inserting data into RECEIVED_MAIL table:

```
INSERT INTO RECEIVED_MAIL (TransactionID, EmailID)
VALUES (937482, "rbharti@gmail.com");

INSERT INTO RECEIVED_MAIL (TransactionID, EmailID)
VALUES (937482, "m0hteli@gmail.com");

INSERT INTO RECEIVED_MAIL (TransactionID, EmailID)
VALUES (6479, "nirbesra1039@gmail.com");

INSERT INTO RECEIVED_MAIL (TransactionID, EmailID)
VALUES (6479, "shafim45@gmail.com");

INSERT INTO RECEIVED_MAIL (TransactionID, EmailID)
VALUES (6479, "michaelgard@gmail.com");

INSERT INTO RECEIVED_MAIL (TransactionID, EmailID)
VALUES (6479, "simashukla89@gmail.com");

INSERT INTO RECEIVED_MAIL (TransactionID, EmailID)
VALUES (863, "nelson09@gmail.com");

INSERT INTO RECEIVED_MAIL (TransactionID, EmailID)
VALUES (48290, "shafim45@gmail.com");

INSERT INTO RECEIVED_MAIL (TransactionID, EmailID)
VALUES (48290, "anitag@gmail.com");
```

- Inserting data into the PHOTOS table:

```
INSERT INTO PHOTOS (FolderID, Photo_Name, Photo_Size, Last_Seen,
Att_TransactionID)
VALUES (267, "test1.jpg",141, CURRENT_TIMESTAMP, 48290);


INSERT INTO PHOTOS (FolderID, Photo_Name, Photo_Size, Last_Seen,
Att_TransactionID)
VALUES (267, "test2.jpg",123, CURRENT_TIMESTAMP, 48290);


INSERT INTO PHOTOS (FolderID, Photo_Name, Photo_Size, Last_Seen,
Att_TransactionID)
VALUES (101, "maintest.jpg",91, CURRENT_TIMESTAMP, 48290);


INSERT INTO PHOTOS (FolderID, Photo_Name, Photo_Size, Last_Seen,
Att_TransactionID)
VALUES (93, "ans2.jpg",51, CURRENT_TIMESTAMP, null);
```

- Inserting data into the PDFS table:

```
INSERT INTO PDFS (FolderID, Title, PDF_Size, Last_Seen,
Att_TransactionID)
VALUES (90, "units_of_measurement.pdf",600, CURRENT_TIMESTAMP,
null);


INSERT INTO PDFS (FolderID, Title, PDF_Size, Last_Seen,
Att_TransactionID)
VALUES (90, "states_of_matter.pdf",853, CURRENT_TIMESTAMP,
null);
```

● Inserting data into the Docs table:

```
INSERT INTO Docs (FolderID, Title, Doc_Size, Last_Modified,
Doc_Content, Att_TransactionID)
VALUES (101, "results.doc",386, CURRENT_TIMESTAMP,"observed
changes in flies kept in isolation from the rest of the group",
6479);

INSERT INTO Docs (FolderID, Title, Doc_Size, Last_Modified,
Doc_Content, Att_TransactionID)
VALUES (91, "hw1.doc",276, CURRENT_TIMESTAMP, "homework
questions on states of matter:", null);
```

● Inserting data into the EDITOR table:

```
INSERT INTO EDITOR (EmailID,FolderID, Title)
VALUES ("nirbesra1039@gmail.com",101,"results.doc");

INSERT INTO EDITOR (EmailID,FolderID, Title)
VALUES ("shafim45@gmail.com",101,"results.doc");

INSERT INTO EDITOR (EmailID,FolderID, Title)
VALUES ("michaelgard@gmail.com",101,"results.doc");

INSERT INTO EDITOR (EmailID,FolderID, Title)
VALUES ("simashukla89@gmail.com",101,"results.doc");

INSERT INTO EDITOR (EmailID,FolderID, Title)
VALUES ("rmishra58@gmail.com",91,"hw1.doc");
```

● Inserting data into the VIEWER table:

```
INSERT INTO VIEWER (EmailID,FolderID, Title)
VALUES ("rmishra58@gmail.com",91,"hw1.doc");

INSERT INTO VIEWER (EmailID,FolderID, Title)
VALUES ("m0hteli@gmail.com",91,"hw1.doc");
```

Tables Created

ACCOUNTS table:


```
1 SELECT * FROM ACCOUNTS;
```

EmailID	Acc_Name	DOB	Recovery_EmailID	Drive_Link
nirbesra1039@gmail....	Nirmala Besra	19-02-1989	NULL	https://drive.google.com/dri...
nelson09@gmail.com	Nelson Elvir	27-12-1963	nelsonelvir@yahoo.com	https://drive.google.com/dri...
rbharti@gmail.com	Raj Bharti	03-05-2001	rjkid03@gmail.com	https://drive.google.com/dri...
smpersonal@gmail.com	Suman Marandi	08-08-1980	smresearch@gmail.com	https://drive.google.com/dri...
anitag@gmail.com	Anita Gadekar	19-01-1987	agagag@outlook.com	https://drive.google.com/dri...
rmishra58@gmail.com	Rakesh Mishra	05-08-1958	NULL	https://drive.google.com/dri...
simashukla89@gmail....	Sima Shukla	18-11-1989	ss89@yahoo.com	https://drive.google.com/dri...
michaelgard@gmail.c...	Michael Gardier	25-07-1995	mg22csb0f29@gmail....	https://drive.google.com/dri...
m0hteli@gmail.com	Mohan Teli	14-12-2000	mtgamer@gmail.com	https://drive.google.com/dri...
shafim45@gmail.com	Mohammad Shafi	09-05-1991	moshaf3636@gmail.c...	https://drive.google.com/dri...

CONTACTS table:

```
1 SELECT * FROM CONTACTS;
```

EmailID	ContactSaved_EmailID
nirbesra1039@gmail.com	smpersonal@gmail.com
nirbesra1039@gmail.com	anitag@gmail.com
nirbesra1039@gmail.com	simashukla89@gmail.com
nirbesra1039@gmail.com	michaelgard@gmail.com
nirbesra1039@gmail.com	shafim45@gmail.com
smpersonal@gmail.com	nirbesra1039@gmail.com
smpersonal@gmail.com	anitag@gmail.com
smpersonal@gmail.com	shafim45@gmail.com
nelson09@gmail.com	rmishra58@gmail.com
rbharti@gmail.com	nelson09@gmail.com
rbharti@gmail.com	rmishra58@gmail.com
rbharti@gmail.com	m0hteli@gmail.com
m0hteli@gmail.com	rmishra58@gmail.com
m0hteli@gmail.com	rbharti@gmail.com
anitag@gmail.com	shafim45@gmail.com

EmailID	ContactSaved_EmailID
anitag@gmail.com	michaelgard@gmail.com
anitag@gmail.com	rmishra58@gmail.com
anitag@gmail.com	nelson09@gmail.com
simashukla89@gmail.com	smpersonal@gmail.com
simashukla89@gmail.com	m0hteli@gmail.com
michaelgard@gmail.com	nirbesra1039@gmail.com
michaelgard@gmail.com	shafim45@gmail.com
shafim45@gmail.com	nelson09@gmail.com
shafim45@gmail.com	simashukla89@gmail.com
shafim45@gmail.com	smpersonal@gmail.com
shafim45@gmail.com	michaelgard@gmail.com

Acc_PhNo table:

```
1 SELECT * FROM Acc_PhNo;
```

EmailID	PhNo
nirbesra1039@gmail.com	7499392835
nelson09@gmail.com	8355732155
nelson09@gmail.com	3083395592
rbharti@gmail.com	1974905887
smpersonal@gmail.com	4383315461
smpersonal@gmail.com	3419197876
anitag@gmail.com	1410510946
rmishra@gmail.com	672630019
rmishra@gmail.com	3845438210
simashukla89@gmail.com	9853862314
michaelgard@gmail.com	9465872790
michaelgard@gmail.com	5871613218
m0hteli@gmail.com	2947762457
shafim45@gmail.com	9035107998

FOLDERS table:

```
1 SELECT * FROM FOLDERS;
```

FolderID	FolderName	EmailID	Parent_FolderID
101	Fly Expt 1	smpersonal@gmail.com	NULL
114	experiment 234	simashukla89@gmail.com	NULL
267	behaviour 0.1	smpersonal@gmail.com	101
90	Chapter 1	nelson09@gmail.com	NULL
91	homework 1	nelson09@gmail.com	90
93	homework 1 answer key	nelson09@gmail.com	91

SHARED_FOLDERS table:

```
1 SELECT * FROM SHARED_FOLDERS;
```

FolderID	Shared_With
90	rmishra58@gmail.com
91	m0hteli@gmail.com
91	rbharti@gmail.com
101	simashukla89@gmail.com
101	shifam45@gmail.com
101	nirbesra1039@gmail.com
101	michaelgard@gmail.com
267	nirbesra1039@gmail.com
267	anitag@gmail.com

MAIL table:

```
1 SELECT * FROM MAIL;
```

TransactionID	Subject	Mail_Body	Send_Date	Sender_emailID
6479	Fly Expt observations	I have attached the re...	14-03-2024	smpersonal@gmail.com
937482	Homework Assignment	Solve the questions gi...	09-01-2024	nelson09@gmail.com
863	NULL	Dear Nelson, I reques...	20-07-2023	rmishra58@gmail.com
48290	Progress Check	Im sending the picture...	05-03-2024	michaelgard@gmail.com

RECEIVED_MAIL table:

```
1 SELECT * FROM RECEIVED_MAIL;
```

TransactionID	EmailID
937482	rbharti@gmail.com
937482	m0hteli@gmail.com
6479	nirbesra1039@gmail.com
6479	shafim45@gmail.com
6479	michaelgard@gmail.com
6479	simashukla89@gmail.com
863	nelson09@gmail.com
48290	shafim45@gmail.com
48290	anitag@gmail.com

PHOTOS table:

```
1 SELECT * FROM PHOTOS;
```

FolderID	Photo_Name	Photo_Size	Last_Seen	Att_TransactionID
267	test1.jpg	141	2024-03-29 20:28:05	48290
267	test2.jpg	123	2024-03-29 20:28:05	48290
101	maintest.jpg	91	2024-03-29 20:28:05	48290
93	ans2.jpg	51	2024-03-29 20:28:05	NULL

PDFS table:

```
1 SELECT * FROM PDFS;
```

FolderID	Title	Last_Seen	PDF_Size	Att_TransactionID
90	units_of_measureme...	2024-03-29 20:28:05	600	NULL
90	states_of_matter.pdf	2024-03-29 20:28:05	853	NULL

DOCS table:

```
1 SELECT * FROM DOCS;
```

FolderID	Title	Last_Modified	Doc_Size	Doc_Content	Att_TransactionID
101	results.doc	2024-03-29 20:2...	386	observed change...	6479
91	hw1.doc	2024-03-29 20:2...	276	homework questi...	NULL

EDITOR table:

```
1 SELECT * FROM EDITOR;
```

EmailID	FolderID	Title
nirbesra1039@gmail.com	101	results.doc
shafim45@gmail.com	101	results.doc
michaelgard@gmail.com	101	results.doc
simashukla89@gmail.com	101	results.doc
rmishra58@gmail.com	91	hw1.doc

VIEWER table:

```
1 SELECT * FROM VIEWER;
```

EmailID	FolderID	Title
rmishra58@gmail.com	91	hw1.doc
m0hteli@gmail.com	91	hw1.doc