**DBMS PROJECT**

**SUBJECT:** DATABASE

**TOPIC:** LINKEDIN



**Submitted to:** Sir Muhammad Hafeez

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**Major:** BSCS

**SECTION:** CSE1

**GC UNIVERSITY LAHORE**

**Business Statement: LinkedIn Database Management System**

**Introduction**

**In today's digital age, professional networking platforms like LinkedIn have become essential tools for:**

* **Career development**
* **Business networking**
* **Industry engagement**

LinkedIn connects professionals across the globe, facilitating opportunities for:

* **Job searches**
* **Professional growth**
* **Industry insights**

To support the vast amount of user data, connections, and content interactions, a **robust and efficient database management system (DBMS)** is crucial. This project aims to design a comprehensive LinkedIn database management system for:

* **Efficient data storage**
* **Seamless user experience**
* **Operational scalability**

**Objectives**

The primary objectives of this LinkedIn database management system are:

1. **Efficient Data Storage:** Effectively store extensive user information, including profiles, connections, posts, comments, likes, shares, and group memberships.
2. **Data Integrity and Security:** Maintain data integrity and ensure user information security through robust database design and strict access control measures.
3. **Scalability:** Design a system capable of handling an increasing number of users and interactions without compromising performance.
4. **Comprehensive Data Retrieval:** Enable quick and accurate retrieval of data to support user activities and administrative functions.
5. **Advanced Querying:** Support complex queries and analytics to derive meaningful insights from the data.

**Database Design**

**1. Users Table**

**Attributes**: user\_id (INT, PRIMARY KEY AUTO\_INCREMENT), email (VARCHAR(255), NOT NULL, UNIQUE), password (VARCHAR(255), NOT NULL), name (VARCHAR(255), NOT NULL), location (VARCHAR(255)), join\_date (DATE, NOT NULL)

**Relationships:**

* One-to-one relationship with Profiles Table
* Many-to-many relationship with Connections Table
* Many-to-many relationship with Education Table
* Many-to-many relationship with Experience Table
* Many-to-many relationship with Skills Table
* One-to-many relationship with Posts Table
* One-to-many relationship with Comments Table
* One-to-many relationship with Likes Table
* One-to-many relationship with Shares Table

**2. Profiles Table**

**Attributes**: profile\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), headline (VARCHAR(255)), summary (TEXT), industry (VARCHAR(255)), website (VARCHAR(255))

**Relationships**: One-to-one relationship with Users Table

**3. Connections Table**

**Attributes**: connection\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), connection\_user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), connection\_status (ENUM('Pending', 'Accepted', 'Blocked'), NOT NULL)

**Relationships:** Many-to-many relationship with Users Table through User\_Connection Table

**4. Education Table**

**Attributes**: education\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), school\_name (VARCHAR(255), NOT NULL), degree (VARCHAR(255)), field\_of\_study (VARCHAR(255)), start\_date (DATE), end\_date (DATE)

**Relationships:** One-to-many relationship with Users Table

**5. Experience Table**

**Attributes**: experience\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), company\_name (VARCHAR(255), NOT NULL), title (VARCHAR(255)), location (VARCHAR(255)), start\_date (DATE), end\_date (DATE)

**Relationships**: One-to-many relationship with Users Table

**6. Skills Table**

**Attributes**: skill\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), skill\_name (VARCHAR(255), NOT NULL)

**Relationships:** One-to-many relationship with Users Table

**7. Posts Table**

**Attributes**: post\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), content (TEXT), post\_date (DATETIME)

**Relationships:**

* One-to-many relationship with Users Table
* One-to-many relationship with Comments Table
* One-to-many relationship with Likes Table
* One-to-many relationship with Shares Table

**8. Comments Table**

**Attributes**: comment\_id (INT, PRIMARY KEY AUTO\_INCREMENT), post\_id (INT, FOREIGN KEY REFERENCES Posts(post\_id)), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), content (TEXT), timestamp (DATETIME, NOT NULL, DEFAULT CURRENT\_TIMESTAMP)

**Relationships:**

* One-to-many relationship with Posts Table
* One-to-many relationship with Users Table

**9. Likes Table**

**Attributes**: like\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), post\_id (INT, FOREIGN KEY REFERENCES Posts(post\_id))

**Relationships:**

* Many-to-one relationship with Posts Table
* Many-to-one relationship with Users Table

10. Shares Table

**Attributes**: share\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), post\_id (INT, FOREIGN KEY REFERENCES Posts(post\_id))

**Relationships:**

* Many-to-one relationship with Posts Table
* Many-to-one relationship with Users Table

**11. User\_Connection Table**

**Attributes**: user\_connection\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), connection\_id (INT, FOREIGN KEY REFERENCES Connections(connection\_id))

**Relationships**: Many-to-many relationship with Users Table through Connections Table

**12. Group\_Group\_Member Table**

**Attributes**: group\_group\_member\_id (INT, PRIMARY KEY AUTO\_INCREMENT), group\_id (INT, FOREIGN KEY REFERENCES Groups(group\_id)), group\_member\_id (INT, FOREIGN KEY REFERENCES Group\_Members(group\_member\_id))

**Relationships**: Many-to-many relationship with Groups Table through Group\_Members Table

**13. User\_Skills Table**

**Attributes**: user\_skill\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), skill\_id (INT, FOREIGN KEY REFERENCES Skills(skill\_id))

**Relationships**: One-to-many relationship with Users Table

**14. Group\_Members Table**

**Attributes**: group\_member\_id (INT, PRIMARY KEY AUTO\_INCREMENT), group\_id (INT, FOREIGN KEY REFERENCES Groups(group\_id)), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id))

**Relationships**: Many-to-many relationship with Users Table through Groups Table

**15. Profile Table**

**Attributes**: profile\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), headline (VARCHAR(255)), summary (TEXT), industry (VARCHAR(255)), website (VARCHAR(255))

**Relationships**: One-to-one relationship with Users Table

**16. User\_Education Table**

**Attributes**: user\_education\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), education\_id (INT, FOREIGN KEY REFERENCES Education(education\_id))

**Relationships**: One-to-many relationship with Users Table

**17. User\_Experience Table**

**Attributes**: user\_experience\_id (INT, PRIMARY KEY AUTO\_INCREMENT), user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)), experience\_id (INT, FOREIGN KEY REFERENCES Experience(experience\_id))

**Relationships**: One-to-many relationship with Users TableRelationships Between Tables

**Anomalies and Data Integrity**

To ensure data integrity and avoid anomalies, the following constraints and practices are implemented:

1. **Primary Keys:** Each table has a primary key to uniquely identify each record.
2. **Foreign Keys:** Foreign keys are used to maintain referential integrity between related tables.
3. **Unique Constraints:** Unique constraints on fields like email and username prevent duplicate entries.
4. **Check Constraints:** Check constraints on fields like status ensure valid values.

**CRUD Operations and Advanced Queries**

The system supports various CRUD (Create, Read, Update, Delete) operations and advanced queries for effective data management. Examples include:

* **Select Queries:** Retrieve specific information, such as all posts by a user or users in a particular location.
* **Insert Queries:** Add new records, such as a new user or a new post.
* **Update Queries:** Modify existing records, such as updating a user's profile information.
* **Delete Queries:** Remove records, such as deleting a comment or a connection.

**Example Select Queries**

Here are some examples of select queries:

1. **Retrieve:** Department name, manager's last name, and total number of employees in each department. Include only departments with at least one employee, ordered by the total number of employees (descending).
2. **List:** Job titles with minimum, maximum, and average salary for each title. Include only titles with an average salary exceeding $50,000.
3. **Show:** Department name and total number of employees hired per year. Include only departments with at least one employee hired in the given year, ordered by department name and year of hire.
4. **Display:** Employee last name, job title, salary, and the difference between each employee's salary and the average salary for their job title. Include only employees whose salary is above the average salary for their job title.
5. **List:** Employee IDs, last names, and hire dates of employees hired before their manager. Order the results by hire date.
6. **Show:** Department name, manager's last name, and total salary for employees managed by each manager. Include only managers with at least one employee, ordered by total salary (descending).
7. **Retrieve:** Job title, department name, and the highest salary in each department. Include only departments with at least one employee, ordered by department name.

**Conclusion**

The LinkedIn database management system is designed to provide a robust and scalable solution for managing extensive user data and interactions. This comprehensive structure with clear relationships and constraints ensures efficient data storage, retrieval, and integrity. This foundational design supports the growing needs of LinkedIn users, facilitating professional networking and career development on a global scale.

**Structure of All Tables**

Here's a breakdown of the table structures for a LinkedIn-like system:

**1.Users Table**

* **user\_id (INT, PRIMARY KEY AUTO\_INCREMENT):** A unique integer identifier for each user in the system.
* **email (VARCHAR(255), NOT NULL, UNIQUE):** The user's email address used for login and communication. Must be unique for each user.
* **password (VARCHAR(255), NOT NULL):** The user's password for authentication, likely stored in an encrypted format.
* **name (VARCHAR(255), NOT NULL):** The user's full name.
* **location (VARCHAR(255)):** The user's current location (city, state, country).
* **join\_date (DATE, NOT NULL):** The date the user registered on the platform.

**2. Profiles Table**

* **profile\_id (INT, PRIMARY KEY AUTO\_INCREMENT):** A unique integer identifier for each user profile.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** Connects the profile to a specific user using the user\_id from the Users table.
* **headline (VARCHAR(255)):** A concise summary of the user's professional experience or goals.
* **summary (TEXT):** A detailed description of the user's background, skills, and experiences.
* **industry (VARCHAR(255)):** The industry the user works in (e.g., Technology, Marketing, Finance).
* **website (VARCHAR(255)):** The user's professional website or portfolio link (optional).

**3. Connections Table**

* **connection\_id (INT, PRIMARY KEY AUTO\_INCREMENT):** A unique integer identifier for each connection record.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user who initiated the connection request.
* **connection\_user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user receiving the connection request.
* **connection\_status (ENUM('Pending', 'Accepted', 'Blocked'), NOT NULL):** The status of the connection (e.g., Pending, Accepted, Blocked).

**4. Education Table**

* **education\_id (INT, PRIMARY KEY AUTO\_INCREMENT):** A unique integer identifier for each education record.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user associated with the education record.
* **school\_name (VARCHAR(255), NOT NULL):** The name of the educational institution the user attended.
* **degree (VARCHAR(255)):** The degree earned by the user (e.g., Bachelor's, Master's, PhD).
* **field\_of\_study (VARCHAR(255)):** The user's major or area of focus in their education.
* **start\_date (DATE):** The date the user began their studies.
* **end\_date (DATE):** The date the user completed their studies (or expected completion date).

**5. Experience Table**

* **experience\_id (INT, PRIMARY KEY AUTO\_INCREMENT):** A unique integer identifier for each work experience record.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user associated with the work experience.
* **company\_name (VARCHAR(255), NOT NULL):** The name of the company the user worked for.
* **title (VARCHAR(255)):** The job title held by the user at the company.
* **location (VARCHAR(255)):** The location of the user's employment (city, state, country).
* **start\_date (DATE):** The date the user began their employment.
* **end\_date (DATE):** The date the user ended their employment (or current date if still employed).

**6. Skills Table**

* **skill\_id (INT, PRIMARY KEY AUTO\_INCREMENT):** A unique integer identifier for each skill record.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user who possesses the skill.
* **skill\_name (VARCHAR(255), NOT NULL):** The name of the skill possessed by the user.

**7. Posts Table**

* **post\_id (INT, PRIMARY KEY AUTO\_INCREMENT):** A unique integer identifier for each user post.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user who created the post.

**8. Comments Table** (This table likely relates to the Posts table)

* **comment\_id (INT, PRIMARY KEY AUTO\_INCREMENT):** A unique integer identifier for each comment.
* **post\_id (INT, FOREIGN KEY REFERENCES Posts(post\_id)):** The ID of the post the comment is attached to.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user who created the comment.
* **content (TEXT):** The content of the comment.
* **timestamp (DATETIME, NOT NULL, DEFAULT CURRENT\_TIMESTAMP):** The date and time the comment was created.

**9. Groups Table**

* **group\_id (INT, PRIMARY KEY):** A unique integer identifier for each group.
* **name (VARCHAR(255), NOT NULL):** The name of the group.
* **description (TEXT):** A description of the group's purpose and focus.
* **is\_public (BOOLEAN, NOT NULL):** Indicates whether the group is public (anyone can join) or private (requires approval).

**10. GroupMembers Table** (This table connects Users and Groups tables)

* **group\_member\_id (INT, PRIMARY KEY AUTO\_INCREMENT):** A unique integer identifier for each group membership record.
* **group\_id (INT, FOREIGN KEY REFERENCES Groups(group\_id)):** The ID of the group the user belongs to.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user who is a member of the group.

**11. User\_Connection Table**

* **user\_connection\_id (INT, PRIMARY KEY):** A unique identifier for each user connection record.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user initiating or receiving the connection.
* **connection\_id (INT, FOREIGN KEY REFERENCES Connections(connection\_id)):** The ID of the connection record.

**12. Share Table**

* **share\_id (INT, PRIMARY KEY):** A unique identifier for each share record.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user who shared the post.
* **post\_id (INT, FOREIGN KEY REFERENCES Posts(post\_id)):** The ID of the post being shared.

**13. Likes Table**

* **like\_id (INT, PRIMARY KEY):** A unique identifier for each like record.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id**)): The ID of the user who liked the post.
* **post\_id (INT, FOREIGN KEY REFERENCES Posts(post\_id)):** The ID of the post being liked.

**14. Group\_Group\_Member Table**

* **group\_group\_member\_id (INT, PRIMARY KEY):** A unique identifier for each group-group member record.
* **group\_id (INT, FOREIGN KEY REFERENCES Groups(group\_id)):** The ID of the group to which a group member belongs.
* **group\_member\_id (INT, FOREIGN KEY REFERENCES GroupMembers(group\_member\_id)):** The ID of the group member.

**15. User\_Skills Table**

* **user\_skill\_id (INT, PRIMARY KEY):** A unique identifier for each user-skill record.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user associated with the skill.
* **skill\_id (INT, FOREIGN KEY REFERENCES Skills(skill\_id)):** The ID of the skill associated with the user.

**16. Profile Table**

* **profile\_id (INT, PRIMARY KEY):** A unique identifier for each user profile.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user associated with the profile.
* **headline (VARCHAR(255)):** A brief summary of the user's professional background or goals.
* **summary (TEXT):** A detailed description of the user's background, skills, and experiences.
* **industry (VARCHAR(255)):** The industry in which the user works or is interested in.
* **website (VARCHAR(255)):** The URL of the user's professional website or portfolio (optional).

**17. Group\_Members Table**

* **group\_member\_id (INT, PRIMARY KEY):** A unique identifier for each group-member record.
* **group\_id (INT, FOREIGN KEY REFERENCES Groups(group\_id)): The** ID of the group to which the member belongs.
* **user\_id (INT, FOREIGN KEY REFERENCES Users(user\_id)):** The ID of the user who is a member of the group.

**MYSQL CODE**

create database linkedin1;

use linkedin1;

CREATE TABLE User (

user\_id INT PRIMARY KEY,

name VARCHAR(100) NOT NULL,

email VARCHAR(100) NOT NULL UNIQUE,

password VARCHAR(255) NOT NULL,

location VARCHAR(100),

join\_date DATE NOT NULL

);

INSERT INTO User (user\_id, name, email, password, location, join\_date) VALUES

(1, 'Ali Khan', 'ali.khan@example.com', 'ali123', 'Karachi', '2024-06-12'),

(2, 'Sana Ahmed', 'sana.ahmed@example.com', 'sana456', 'Lahore', '2024-06-12'),

(3, 'Hassan Malik', 'hassan.malik@example.com', 'hassan789', 'Islamabad', '2024-06-11'),

(4, 'Fatima Khan', 'fatima.khan@example.com', 'fatima@123', 'Rawalpindi', '2024-06-11'),

(5, 'Ahmed Khan', 'ahmed.khan@example.com', 'ahmed321', 'Faisalabad', '2024-06-10'),

(6, 'Saima Ali', 'saima.ali@example.com', 'saima456', 'Multan', '2024-06-10'),

(7, 'Imran Hussain', 'imran.hussain@example.com', 'imran123', 'Quetta', '2024-06-09'),

(8, 'Ayesha Aslam', 'ayesha.aslam@example.com', 'ayesha@123', 'Peshawar', '2024-06-09'),

(9, 'Usman Ali', 'usman.ali@example.com', 'usman789', 'Sialkot', '2024-06-08'),

(10, 'Sadia Khan', 'sadia.khan@example.com', 'sadia123', 'Gujranwala', '2024-06-08'),

(11, 'Naveed Ahmed', 'naveed.ahmed@example.com', 'naveed456', 'Hyderabad', '2024-06-07'),

(12, 'Farah Malik', 'farah.malik@example.com', 'farah@123', 'Sukkur', '2024-06-07'),

(13, 'Asad Khan', 'asad.khan@example.com', 'asad789', 'Bahawalpur', '2024-06-06'),

(14, 'Amina Rehman', 'amina.rehman@example.com', 'amina123', 'Mirpur Khas', '2024-06-06'),

(15, 'Bilal Ahmed', 'bilal.ahmed@example.com', 'bilal@123', 'Sargodha', '2024-06-05'),

(16, 'Sadia Nadeem', 'sadia.nadeem@example.com', 'sadia789', 'Gujrat', '2024-06-05'),

(17, 'Zubair Khan', 'zubair.khan@example.com', 'zubair123', 'Jhelum', '2024-06-04'),

(18, 'Sara Khan', 'sara.khan@example.com', 'sara@123', 'Mardan', '2024-06-04'),

(19, 'Waqar Ali', 'waqar.ali@example.com', 'waqar456', 'Larkana', '2024-06-03'),

(20, 'Aisha Nisar', 'aisha.nisar@example.com', 'aisha@123', 'Kohat', '2024-06-03');

CREATE TABLE Experience (

experience\_id INT PRIMARY KEY,

user\_id INT,

company\_name VARCHAR(100) NOT NULL,

title VARCHAR(100) NOT NULL,

location VARCHAR(100),

start\_date DATE,

end\_date DATE,

FOREIGN KEY (user\_id) REFERENCES User(user\_id)

);

INSERT INTO Experience (experience\_id, user\_id, company\_name, title, location, start\_date, end\_date) VALUES

(1, 1, 'ABC Corporation', 'Software Engineer', 'Karachi', '2020-01-01', '2022-06-30'),

(2, 1, 'XYZ Tech', 'Senior Developer', 'Karachi', '2018-05-01', '2019-12-31'),

(3, 2, 'Tech Solutions Ltd', 'Product Manager', 'Lahore', '2019-03-15', '2021-08-30'),

(4, 3, 'Alpha Inc', 'Data Analyst', 'Islamabad', '2020-09-01', '2022-04-15'),

(5, 4, 'Beta Software', 'UX Designer', 'Rawalpindi', '2018-07-01', '2020-12-31'),

(6, 5, 'Gamma Systems', 'Software Engineer', 'Faisalabad', '2017-02-15', '2019-11-30'),

(7, 6, 'Delta Solutions', 'Software Developer', 'Multan', '2019-08-01', '2021-12-31'),

(8, 7, 'Omega Tech', 'Data Scientist', 'Quetta', '2018-04-01', '2020-10-15'),

(9, 8, 'Tech Innovations', 'Project Manager', 'Peshawar', '2019-06-15', '2021-09-30'),

(10, 9, 'Zeta Corporation', 'Software Engineer', 'Sialkot', '2020-03-01', '2022-08-31'),

(11, 10, 'Sigma Solutions', 'Software Developer', 'Gujranwala', '2018-10-01', '2020-12-31'),

(12, 11, 'Pi Technologies', 'UX Designer', 'Hyderabad', '2019-09-15', '2022-01-31'),

(13, 12, 'Epsilon Tech', 'Data Analyst', 'Sukkur', '2017-12-01', '2019-07-31'),

(14, 13, 'Lambda Software', 'Software Engineer', 'Bahawalpur', '2020-08-15', '2022-11-30'),

(15, 14, 'Mu Solutions', 'Senior Developer', 'Mirpur Khas', '2018-06-01', '2020-12-31'),

(16, 15, 'Nu Tech', 'Software Developer', 'Sargodha', '2019-05-01', '2021-10-15'),

(17, 16, 'Kappa Solutions', 'Data Scientist', 'Gujrat', '2018-02-15', '2020-07-31'),

(18, 17, 'Rho Corporation', 'Product Manager', 'Jhelum', '2019-11-01', '2022-02-28'),

(19, 18, 'Omega Software', 'Software Engineer', 'Mardan', '2017-10-15', '2019-12-31'),

(20, 19, 'Psi Tech', 'Senior Developer', 'Larkana', '2019-04-01', '2021-09-30'),

(21, 20, 'Chi Solutions', 'Project Manager', 'Kohat', '2018-08-15', '2020-11-30'),

(22, 1, 'Epsilon Solutions', 'Software Engineer', 'Karachi', '2015-07-01', '2017-12-31'),

(23, 2, 'Lambda Tech', 'Product Manager', 'Lahore', '2017-06-15', '2019-09-30'),

(24, 3, 'Mu Corporation', 'Data Analyst', 'Islamabad', '2018-08-01', '2020-11-15'),

(25, 4, 'Nu Solutions', 'UX Designer', 'Rawalpindi', '2016-09-01', '2018-12-31'),

(26, 5, 'Kappa Software', 'Software Engineer', 'Faisalabad', '2015-12-15', '2018-03-31'),

(27, 6, 'Rho Tech', 'Software Developer', 'Multan', '2017-03-01', '2019-06-30'),

(28, 7, 'Omega Solutions', 'Data Scientist', 'Quetta', '2016-05-15', '2018-10-31'),

(29, 8, 'Psi Corporation', 'Project Manager', 'Peshawar', '2017-08-01', '2019-11-15'),

(30, 9, 'Chi Tech', 'Software Engineer', 'Sialkot', '2016-10-15', '2019-01-31'),

(31, 10, 'Phi Solutions', 'Software Developer', 'Gujranwala', '2017-01-01', '2019-04-30'),

(32, 11, 'Omega Innovations', 'UX Designer', 'Hyderabad', '2016-02-15', '2018-05-31'),

(33, 12, 'Psi Tech', 'Data Analyst', 'Sukkur', '2018-04-01', '2020-07-15'),

(34, 13, 'Chi Software', 'Software Engineer', 'Bahawalpur', '2016-06-15', '2018-09-30'),

(35, 14, 'Phi Tech', 'Senior Developer', 'Mirpur Khas', '2017-09-01', '2019-12-15'),

(36, 15, 'Omega Solutions', 'Software Developer', 'Sargodha', '2016-11-15', '2019-02-28'),

(37, 16, 'Psi Corporation', 'Data Scientist', 'Gujrat', '2017-02-01', '2019-05-31'),

(38, 17, 'Chi Tech', 'Product Manager', 'Jhelum', '2016-03-15', '2018-06-30'),

(39, 18, 'Phi Solutions', 'Software Engineer', 'Mardan', '2017-05-01', '2019-08-15'),

(40, 19, 'Omega Innovations', 'Senior Developer', 'Larkana', '2016-08-15', '2018-11-30'),

(41, 20, 'Psi Tech', 'Project Manager', 'Kohat', '2017-01-01', '2019-04-30'),

(42, 1, 'Chi Software', 'Software Engineer', 'Karachi', '2014-03-15', '2016-06-30'),

(43, 2, 'Phi Tech', 'Senior Developer', 'Lahore', '2016-01-01', '2018-04-30'),

(44, 3, 'Omega Solutions', 'Software Developer', 'Islamabad', '2017-02-15', '2019-05-31'),

(45, 4, 'Psi Corporation', 'Data Scientist', 'Rawalpindi', '2015-04-01', '2017-07-15'),

(46, 5, 'Chi Tech', 'Product Manager', 'Faisalabad', '2014-05-15', '2016-08-31'),

(47, 6, 'Phi Solutions', 'Software Engineer', 'Multan', '2016-07-01', '2018-10-15'),

(48, 7, 'Omega Innovations', 'Senior Developer', 'Quetta', '2015-08-15', '2017-11-30'),

(49, 8, 'Psi Tech', 'Project Manager', 'Peshawar', '2016-01-01', '2018-04-30'),

(50, 9, 'Chi Software', 'Software Engineer', 'Sialkot', '2015-03-15', '2017-06-30'),

(51, 10, 'Phi Tech', 'Senior Developer', 'Gujranwala', '2016-05-01', '2018-08-15'),

(52, 11, 'Omega Solutions', 'Software Developer', 'Hyderabad', '2015-06-15', '2017-09-30'),

(53, 12, 'Psi Corporation', 'Data Scientist', 'Sukkur', '2017-08-01', '2019-11-15'),

(54, 13, 'Chi Tech', 'Product Manager', 'Bahawalpur', '2015-10-15', '2017-01-31'),

(55, 14, 'Phi Solutions', 'Software Engineer', 'Mirpur Khas', '2016-12-01', '2019-03-15'),

(56, 15, 'Omega Innovations', 'Senior Developer', 'Sargodha', '2016-01-15', '2018-04-30'),

(57, 16, 'Psi Tech', 'Project Manager', 'Gujrat', '2015-03-01', '2017-06-15'),

(58, 17, 'Chi Software', 'Software Engineer', 'Jhelum', '2016-04-15', '2018-07-31'),

(59, 18, 'Phi Tech', 'Senior Developer', 'Mardan', '2015-06-01', '2017-09-15'),

(60, 19, 'Omega Solutions', 'Software Developer', 'Larkana', '2016-08-15', '2018-11-30'),

(61, 20, 'Psi Corporation', 'Data Scientist', 'Kohat', '2015-09-01', '2017-12-15'),

(62, 1, 'Chi Tech', 'Product Manager', 'Karachi', '2013-11-01', '2016-02-28'),

(63, 2, 'Phi Solutions', 'Software Engineer', 'Lahore', '2015-01-15', '2017-04-30'),

(64, 3, 'Omega Innovations', 'Senior Developer', 'Islamabad', '2016-03-01', '2018-06-15'),

(65, 4, 'Psi Tech', 'Project Manager', 'Rawalpindi', '2014-04-15', '2016-07-31'),

(66, 5, 'Chi Software', 'Software Engineer', 'Faisalabad', '2013-06-01', '2015-09-15'),

(67, 6, 'Phi Tech', 'Senior Developer', 'Multan', '2015-08-15', '2017-11-30'),

(68, 7, 'Omega Solutions', 'Software Developer', 'Quetta', '2014-10-01', '2017-01-15'),

(69, 8, 'Psi Corporation', 'Data Scientist', 'Peshawar', '2015-12-15', '2018-03-31'),

(70, 9, 'Chi Tech', 'Product Manager', 'Sialkot', '2014-01-01', '2016-04-15'),

(71, 10, 'Phi Solutions', 'Software Engineer', 'Gujranwala', '2015-03-15', '2017-06-30'),

(72, 11, 'Omega Innovations', 'Senior Developer', 'Hyderabad', '2014-05-01', '2016-08-15'),

(73, 12, 'Psi Tech', 'Project Manager', 'Sukkur', '2016-06-15', '2018-09-30'),

(74, 13, 'Chi Software', 'Software Engineer', 'Bahawalpur', '2014-08-01', '2016-11-15'),

(75, 14, 'Phi Tech', 'Senior Developer', 'Mirpur Khas', '2015-10-15', '2018-01-31'),

(76, 15, 'Omega Solutions', 'Software Developer', 'Sargodha', '2014-12-01', '2017-03-15'),

(77, 16, 'Psi Corporation', 'Data Scientist', 'Gujrat', '2016-01-15', '2018-04-30'),

(78, 17, 'Chi Tech', 'Product Manager', 'Jhelum', '2015-03-01', '2017-06-15'),

(79, 18, 'Phi Solutions', 'Software Engineer', 'Mardan', '2016-04-15', '2018-07-31'),

(80, 19, 'Omega Innovations', 'Senior Developer', 'Larkana', '2015-06-01', '2017-09-15');

CREATE TABLE User\_Experience (

user\_experience\_id INT PRIMARY KEY,

user\_id INT,

experience\_id INT,

FOREIGN KEY (user\_id) REFERENCES User(user\_id),

FOREIGN KEY (experience\_id) REFERENCES Experience(experience\_id)

);

INSERT INTO User\_Experience (user\_experience\_id, user\_id, experience\_id) VALUES

(1, 1, 1),

(2, 1, 2),

(3, 2, 3),

(4, 3, 4),

(5, 4, 5),

(6, 5, 6),

(7, 6, 7),

(8, 7, 8),

(9, 8, 9),

(10, 9, 10),

(11, 10, 11),

(12, 11, 12),

(13, 12, 13),

(14, 13, 14),

(15, 14, 15),

(16, 15, 16),

(17, 16, 17),

(18, 17, 18),

(19, 18, 19),

(20, 19, 20);

CREATE TABLE Connection (

connection\_id INT PRIMARY KEY,

user\_id INT,

connection\_status ENUM('Connected', 'Not Connected') NOT NULL,

FOREIGN KEY (user\_id) REFERENCES User(user\_id)

);

INSERT INTO Connection (connection\_id, user\_id, connection\_status) VALUES

(1, 1, 'Connected'),

(2, 2, 'Connected'),

(3, 3, 'Connected'),

(4, 4, 'Not Connected'),

(5, 5, 'Connected'),

(6, 6, 'Not Connected'),

(7, 7, 'Connected'),

(8, 8, 'Not Connected'),

(9, 9, 'Connected'),

(10, 10, 'Connected'),

(11, 11, 'Connected'),

(12, 12, 'Not Connected'),

(13, 13, 'Connected'),

(14, 14, 'Not Connected'),

(15, 15, 'Connected'),

(16, 16, 'Connected'),

(17, 17, 'Not Connected'),

(18, 18, 'Connected'),

(19, 19, 'Connected'),

(20, 20, 'Connected'),

(21, 1, 'Connected'),

(22, 2, 'Not Connected'),

(23, 3, 'Connected'),

(24, 4, 'Connected'),

(25, 5, 'Not Connected'),

(26, 6, 'Connected'),

(27, 7, 'Connected'),

(28, 8, 'Not Connected'),

(29, 9, 'Connected'),

(30, 10, 'Not Connected'),

(31, 11, 'Connected'),

(32, 12, 'Connected'),

(33, 13, 'Not Connected'),

(34, 14, 'Connected'),

(35, 15, 'Connected'),

(36, 16, 'Not Connected'),

(37, 17, 'Connected'),

(38, 18, 'Connected'),

(39, 19, 'Not Connected'),

(40, 20, 'Connected'),

(41, 1, 'Connected'),

(42, 2, 'Connected'),

(43, 3, 'Not Connected'),

(44, 4, 'Connected'),

(45, 5, 'Not Connected'),

(46, 6, 'Connected'),

(47, 7, 'Connected'),

(48, 8, 'Not Connected'),

(49, 9, 'Connected'),

(50, 10, 'Connected'),

(51, 11, 'Connected'),

(52, 12, 'Not Connected'),

(53, 13, 'Connected'),

(54, 14, 'Not Connected'),

(55, 15, 'Connected'),

(56, 16, 'Connected'),

(57, 17, 'Not Connected'),

(58, 18, 'Connected'),

(59, 19, 'Connected'),

(60, 20, 'Connected'),

(61, 1, 'Connected'),

(62, 2, 'Not Connected'),

(63, 3, 'Connected'),

(64, 4, 'Connected'),

(65, 5, 'Not Connected'),

(66, 6, 'Connected'),

(67, 7, 'Connected'),

(68, 8, 'Not Connected'),

(69, 9, 'Connected'),

(70, 10, 'Not Connected'),

(71, 11, 'Connected'),

(72, 12, 'Connected'),

(73, 13, 'Not Connected'),

(74, 14, 'Connected'),

(75, 15, 'Connected'),

(76, 16, 'Not Connected'),

(77, 17, 'Connected'),

(78, 18, 'Connected'),

(79, 19, 'Not Connected'),

(80, 20, 'Connected');

CREATE TABLE User\_Connection (

user\_connection\_id INT PRIMARY KEY,

user\_id INT,

connection\_id INT,

FOREIGN KEY (user\_id) REFERENCES User(user\_id),

FOREIGN KEY (connection\_id) REFERENCES Connection(connection\_id)

);

INSERT INTO User\_Connection (user\_connection\_id, user\_id, connection\_id) VALUES

(1, 1, 1),

(2, 2, 2),

(3, 3, 3),

(4, 4, 4),

(5, 5, 5),

(6, 6, 6),

(7, 7, 7),

(8, 8, 8),

(9, 9, 9),

(10, 10, 10),

(11, 11, 11),

(12, 12, 12),

(13, 13, 13),

(14, 14, 14),

(15, 15, 15),

(16, 16, 16),

(17, 17, 17),

(18, 18, 18),

(19, 19, 19),

(20, 20, 20);

CREATE TABLE Education (

education\_id INT PRIMARY KEY,

user\_id INT,

school\_name VARCHAR(100) NOT NULL,

degree VARCHAR(100),

field\_of\_study VARCHAR(100),

start\_date DATE,

end\_date DATE,

FOREIGN KEY (user\_id) REFERENCES User(user\_id)

);

INSERT INTO Education (education\_id, user\_id, school\_name, degree, field\_of\_study, start\_date, end\_date) VALUES

(1, 1, 'ABC School', 'Bachelor of Science', 'Computer Science', '2015-09-01', '2019-05-31'),

(2, 2, 'XYZ College', 'Bachelor of Arts', 'English Literature', '2016-08-15', '2020-06-30'),

(3, 3, 'Alpha Academy', 'Bachelor of Business Administration', 'Marketing', '2017-09-01', '2021-05-31'),

(4, 4, 'Beta Institute', 'Bachelor of Engineering', 'Electrical Engineering', '2018-08-15', '2022-06-30'),

(5, 5, 'Gamma School', 'Bachelor of Science', 'Computer Engineering', '2019-09-01', '2023-05-31'),

(6, 6, 'Delta College', 'Bachelor of Arts', 'Psychology', '2020-08-15', '2024-06-30'),

(7, 7, 'Omega Academy', 'Bachelor of Business Administration', 'Finance', '2021-09-01', '2025-05-31'),

(8, 8, 'Tech Institute', 'Bachelor of Technology', 'Information Technology', '2016-09-01', '2020-05-31'),

(9, 9, 'Zeta School', 'Bachelor of Science', 'Physics', '2017-08-15', '2021-06-30'),

(10, 10, 'Sigma College', 'Bachelor of Arts', 'History', '2018-09-01', '2022-05-31'),

(11, 11, 'Pi Academy', 'Bachelor of Business Administration', 'Management', '2019-08-15', '2023-06-30'),

(12, 12, 'Epsilon Institute', 'Bachelor of Engineering', 'Mechanical Engineering', '2020-09-01', '2024-05-31'),

(13, 13, 'Lambda School', 'Bachelor of Science', 'Mathematics', '2021-08-15', '2025-06-30'),

(14, 14, 'Mu College', 'Bachelor of Arts', 'Sociology', '2016-09-01', '2020-05-31'),

(15, 15, 'Nu Academy', 'Bachelor of Business Administration', 'Entrepreneurship', '2017-08-15', '2021-06-30'),

(16, 16, 'Kappa Institute', 'Bachelor of Engineering', 'Civil Engineering', '2018-09-01', '2022-05-31'),

(17, 17, 'Rho School', 'Bachelor of Science', 'Chemistry', '2019-08-15', '2023-06-30'),

(18, 18, 'Omega College', 'Bachelor of Arts', 'Communications', '2020-09-01', '2024-05-31'),

(19, 19, 'Psi Academy', 'Bachelor of Business Administration', 'International Business', '2021-08-15', '2025-06-30'),

(20, 20, 'Chi Institute', 'Bachelor of Engineering', 'Computer Engineering', '2016-09-01', '2020-05-31'),

(21, 1, 'ABC School', 'Master of Science', 'Computer Science', '2020-09-01', '2022-06-30'),

(22, 2, 'XYZ College', 'Master of Arts', 'English Literature', '2021-08-15', '2023-06-30'),

(23, 3, 'Alpha Academy', 'Master of Business Administration', 'Marketing', '2022-09-01', '2024-06-30'),

(24, 4, 'Beta Institute', 'Master of Engineering', 'Electrical Engineering', '2023-08-15', '2025-06-30'),

(25, 5, 'Gamma School', 'Master of Science', 'Computer Engineering', '2024-09-01', '2026-06-30'),

(26, 6, 'Delta College', 'Master of Arts', 'Psychology', '2025-08-15', '2027-06-30'),

(27, 7, 'Omega Academy', 'Master of Business Administration', 'Finance', '2026-09-01', '2028-06-30'),

(28, 8, 'Tech Institute', 'Master of Technology', 'Information Technology', '2021-09-01', '2023-06-30'),

(29, 9, 'Zeta School', 'Master of Science', 'Physics', '2022-08-15', '2024-06-30'),

(30, 10, 'Sigma College', 'Master of Arts', 'History', '2023-09-01', '2025-06-30'),

(31, 11, 'Pi Academy', 'Master of Business Administration', 'Management', '2024-08-15', '2026-06-30'),

(32, 12, 'Epsilon Institute', 'Master of Engineering', 'Mechanical Engineering', '2025-09-01', '2027-06-30'),

(33, 13, 'Lambda School', 'Master of Science', 'Mathematics', '2026-08-15', '2028-06-30'),

(34, 14, 'Mu College', 'Master of Arts', 'Sociology', '2021-09-01', '2023-06-30'),

(35, 15, 'Nu Academy', 'Master of Business Administration', 'Entrepreneurship', '2022-08-15', '2024-06-30'),

(36, 16, 'Kappa Institute', 'Master of Engineering', 'Civil Engineering', '2023-09-01', '2025-06-30'),

(37, 17, 'Rho School', 'Master of Science', 'Chemistry', '2024-08-15', '2026-06-30'),

(38, 18, 'Omega College', 'Master of Arts', 'Communications', '2025-08-01', '2027-06-30'),

(39, 19, 'Psi Academy', 'Master of Business Administration', 'International Business', '2026-09-15', '2028-06-30'),

(40, 20, 'Chi Institute', 'Master of Engineering', 'Computer Engineering', '2021-09-01', '2023-06-30'),

(41, 1, 'ABC School', 'PhD in Computer Science', 'Computer Science', '2022-09-01', '2026-06-30'),

(42, 2, 'XYZ College', 'PhD in English Literature', 'English Literature', '2023-08-15', '2027-06-30'),

(43, 3, 'Alpha Academy', 'PhD in Marketing', 'Marketing', '2024-09-01', '2028-06-30'),

(44, 4, 'Beta Institute', 'PhD in Electrical Engineering', 'Electrical Engineering', '2025-08-15', '2029-06-30'),

(45, 5, 'Gamma School', 'PhD in Computer Engineering', 'Computer Engineering', '2026-09-01', '2030-06-30'),

(46, 6, 'Delta College', 'PhD in Psychology', 'Psychology', '2027-08-15', '2031-06-30'),

(47, 7, 'Omega Academy', 'PhD in Finance', 'Finance', '2028-09-01', '2032-06-30'),

(48, 8, 'Tech Institute', 'PhD in Information Technology', 'Information Technology', '2023-09-01', '2027-06-30'),

(49, 9, 'Zeta School', 'PhD in Physics', 'Physics', '2024-08-15', '2028-06-30'),

(50, 10, 'Sigma College', 'PhD in History', 'History', '2025-09-01', '2029-06-30'),

(51, 11, 'Pi Academy', 'PhD in Management', 'Management', '2026-08-15', '2030-06-30'),

(52, 12, 'Epsilon Institute', 'PhD in Mechanical Engineering', 'Mechanical Engineering', '2027-09-01', '2031-06-30'),

(53, 13, 'Lambda School', 'PhD in Mathematics', 'Mathematics', '2028-08-15', '2032-06-30'),

(54, 14, 'Mu College', 'PhD in Sociology', 'Sociology', '2023-09-01', '2027-06-30'),

(55, 15, 'Nu Academy', 'PhD in Entrepreneurship', 'Entrepreneurship', '2024-08-15', '2028-06-30'),

(56, 16, 'Kappa Institute', 'PhD in Civil Engineering', 'Civil Engineering', '2025-09-01', '2029-06-30'),

(57, 17, 'Rho School', 'PhD in Chemistry', 'Chemistry', '2026-08-15', '2030-06-30'),

(58, 18, 'Omega College', 'PhD in Communications', 'Communications', '2027-09-01', '2031-06-30'),

(59, 19, 'Psi Academy', 'PhD in International Business', 'International Business', '2028-08-15', '2032-06-30'),

(60, 20, 'Chi Institute', 'PhD in Computer Engineering', 'Computer Engineering', '2023-09-01', '2027-06-30'),

(61, 1, 'ABC School', 'Associate Degree', 'Computer Science', '2013-09-01', '2015-06-30'),

(62, 2, 'XYZ College', 'Associate Degree', 'English Literature', '2014-08-15', '2016-06-30'),

(63, 3, 'Alpha Academy', 'Associate Degree', 'Marketing', '2015-09-01', '2017-06-30'),

(64, 4, 'Beta Institute', 'Associate Degree', 'Electrical Engineering', '2016-08-15', '2018-06-30'),

(65, 5, 'Gamma School', 'Associate Degree', 'Computer Engineering', '2017-09-01', '2019-06-30'),

(66, 6, 'Delta College', 'Associate Degree', 'Psychology', '2018-08-15', '2020-06-30'),

(67, 7, 'Omega Academy', 'Associate Degree', 'Finance', '2019-09-01', '2021-06-30'),

(68, 8, 'Tech Institute', 'Associate Degree', 'Information Technology', '2014-09-01', '2016-06-30'),

(69, 9, 'Zeta School', 'Associate Degree', 'Physics', '2015-08-15', '2017-06-30'),

(70, 10, 'Sigma College', 'Associate Degree', 'History', '2016-09-01', '2018-06-30'),

(71, 11, 'Pi Academy', 'Associate Degree', 'Management', '2017-08-15', '2019-06-30'),

(72, 12, 'Epsilon Institute', 'Associate Degree', 'Mechanical Engineering', '2018-09-01', '2020-06-30'),

(73, 13, 'Lambda School', 'Associate Degree', 'Mathematics', '2019-08-15', '2021-06-30'),

(74, 14, 'Mu College', 'Associate Degree', 'Sociology', '2014-09-01', '2016-06-30'),

(75, 15, 'Nu Academy', 'Associate Degree', 'Entrepreneurship', '2015-08-15', '2017-06-30'),

(76, 16, 'Kappa Institute', 'Associate Degree', 'Civil Engineering', '2016-09-01', '2018-06-30'),

(77, 17, 'Rho School', 'Associate Degree', 'Chemistry', '2017-08-15', '2019-06-30'),

(78, 18, 'Omega College', 'Associate Degree', 'Communications', '2018-09-01', '2020-06-30'),

(79, 19, 'Psi Academy', 'Associate Degree', 'International Business', '2019-08-15', '2021-06-30'),

(80, 20, 'Chi Institute', 'Associate Degree', 'Computer Engineering', '2020-09-01', '2022-06-30');

CREATE TABLE User\_Education (

user\_education\_id INT PRIMARY KEY,

user\_id INT,

education\_id INT,

FOREIGN KEY (user\_id) REFERENCES User(user\_id),

FOREIGN KEY (education\_id) REFERENCES Education(education\_id)

);

INSERT INTO User\_Education (user\_education\_id, user\_id, education\_id) VALUES

(1, 1, 1),

(2, 2, 2),

(3, 3, 3),

(4, 4, 4),

(5, 5, 5),

(6, 6, 6),

(7, 7, 7),

(8, 8, 8),

(9, 9, 9),

(10, 10, 10),

(11, 11, 11),

(12, 12, 12),

(13, 13, 13),

(14, 14, 14),

(15, 15, 15),

(16, 16, 16),

(17, 17, 17),

(18, 18, 18),

(19, 19, 19),

(20, 20, 20);

CREATE TABLE Profile (

profile\_id INT PRIMARY KEY,

user\_id INT,

headline VARCHAR(255),

summary TEXT,

industry VARCHAR(100),

website VARCHAR(255),

FOREIGN KEY (user\_id) REFERENCES User(user\_id)

);

INSERT INTO Profile (profile\_id, user\_id, headline, summary, industry, website) VALUES

(1, 1, 'Experienced Software Engineer', 'I am a software engineer with expertise in web development and database management.', 'Information Technology', 'www.example.com'),

(2, 2, 'Passionate Writer and Editor', 'I am a writer and editor with a strong background in literature and journalism.', 'Media', 'www.example.com'),

(3, 3, 'Creative Marketing Professional', 'I am a marketing professional with a creative mindset and a track record of successful campaigns.', 'Marketing', 'www.example.com'),

(4, 4, 'Electrical Engineer with a focus on Renewable Energy', 'I am an electrical engineer specializing in renewable energy systems and sustainable design.', 'Engineering', 'www.example.com'),

(5, 5, 'Innovative Computer Scientist', 'I am a computer scientist with a passion for innovation and problem-solving.', 'Information Technology', 'www.example.com'),

(6, 6, 'Dedicated Psychologist', 'I am a psychologist dedicated to helping individuals improve their mental well-being.', 'Psychology', 'www.example.com'),

(7, 7, 'Finance Professional with expertise in Investment Banking', 'I am a finance professional with extensive experience in investment banking and financial analysis.', 'Finance', 'www.example.com'),

(8, 8, 'Experienced IT Consultant', 'I am an IT consultant with a focus on helping businesses optimize their technology infrastructure.', 'Information Technology', 'www.example.com'),

(9, 9, 'Passionate Physicist', 'I am a physicist passionate about exploring the mysteries of the universe through scientific research.', 'Science', 'www.example.com'),

(10, 10, 'History Enthusiast and Educator', 'I am a history enthusiast with a dedication to educating others about the past.', 'Education', 'www.example.com'),

(11, 11, 'Results-driven Management Professional', 'I am a management professional focused on achieving results and driving organizational success.', 'Management', 'www.example.com'),

(12, 12, 'Mechanical Engineer specializing in Robotics', 'I am a mechanical engineer specializing in robotics and automation.', 'Engineering', 'www.example.com'),

(13, 13, 'Mathematics Enthusiast and Educator', 'I am a mathematics enthusiast with a passion for teaching and inspiring others.', 'Education', 'www.example.com'),

(14, 14, 'Sociologist with expertise in Social Research', 'I am a sociologist with expertise in conducting social research and analyzing societal trends.', 'Social Sciences', 'www.example.com'),

(15, 15, 'Entrepreneurial Business Administrator', 'I am a business administrator with an entrepreneurial mindset and a focus on innovation.', 'Business', 'www.example.com'),

(16, 16, 'Civil Engineer specializing in Infrastructure Development', 'I am a civil engineer specializing in infrastructure development and urban planning.', 'Engineering', 'www.example.com'),

(17, 17, 'Chemist with a passion for Environmental Science', 'I am a chemist with a passion for environmental science and sustainability.', 'Science', 'www.example.com'),

(18, 18, 'Communications Specialist with expertise in Public Relations', 'I am a communications specialist with expertise in public relations and strategic communication.', 'Media', 'www.example.com'),

(19, 19, 'International Business Professional with a Global Perspective', 'I am an international business professional with a global perspective and cross-cultural experience.', 'Business', 'www.example.com'),

(20, 20, 'Computer Engineer with a focus on Artificial Intelligence', 'I am a computer engineer specializing in artificial intelligence and machine learning.', 'Information Technology', 'www.example.com'),

(21, 1, 'Experienced Software Engineer', 'I am a software engineer with expertise in web development and database management.', 'Information Technology', 'www.example.com'),

(22, 2, 'Passionate Writer and Editor', 'I am a writer and editor with a strong background in literature and journalism.', 'Media', 'www.example.com'),

(23, 3, 'Creative Marketing Professional', 'I am a marketing professional with a creative mindset and a track record of successful campaigns.', 'Marketing', 'www.example.com'),

(24, 4, 'Electrical Engineer with a focus on Renewable Energy', 'I am an electrical engineer specializing in renewable energy systems and sustainable design.', 'Engineering', 'www.example.com'),

(25, 5, 'Innovative Computer Scientist', 'I am a computer scientist with a passion for innovation and problem-solving.', 'Information Technology', 'www.example.com'),

(26, 6, 'Dedicated Psychologist', 'I am a psychologist dedicated to helping individuals improve their mental well-being.', 'Psychology', 'www.example.com'),

(27, 7, 'Finance Professional with expertise in Investment Banking', 'I am a finance professional with extensive experience in investment banking and financial analysis.', 'Finance', 'www.example.com'),

(28, 8, 'Experienced IT Consultant', 'I am an IT consultant with a focus on helping businesses optimize their technology infrastructure.', 'Information Technology', 'www.example.com'),

(29, 9, 'Passionate Physicist', 'I am a physicist passionate about exploring the mysteries of the universe through scientific research.', 'Science', 'www.example.com'),

(30, 10, 'History Enthusiast and Educator', 'I am a history enthusiast with a dedication to educating others about the past.', 'Education', 'www.example.com'),

(31, 11, 'Results-driven Management Professional', 'I am a management professional focused on achieving results and driving organizational success.', 'Management', 'www.example.com'),

(32, 12, 'Mechanical Engineer specializing in Robotics', 'I am a mechanical engineer specializing in robotics and automation.', 'Engineering', 'www.example.com'),

(33, 13, 'Mathematics Enthusiast and Educator', 'I am a mathematics enthusiast with a passion for teaching and inspiring others.', 'Education', 'www.example.com'),

(34, 14, 'Sociologist with expertise in Social Research', 'I am a sociologist with expertise in conducting social research and analyzing societal trends.', 'Social Sciences', 'www.example.com'),

(35, 15, 'Entrepreneurial Business Administrator', 'I am a business administrator with an entrepreneurial mindset and a focus on innovation.', 'Business', 'www.example.com'),

(36, 16, 'Civil Engineer specializing in Infrastructure Development', 'I am a civil engineer specializing in infrastructure development and urban planning.', 'Engineering', 'www.example.com'),

(37, 17, 'Chemist with a passion for Environmental Science', 'I am a chemist with a passion for environmental science and sustainability.', 'Science', 'www.example.com'),

(38, 18, 'Communications Specialist with expertise in Public Relations', 'I am a communications specialist with expertise in public relations and strategic communication.', 'Media', 'www.example.com'),

(39, 19, 'International Business Professional with a Global Perspective', 'I am an international business professional with a global perspective and cross-cultural experience.', 'Business', 'www.example.com'),

(40, 20, 'Computer Engineer with a focus on Artificial Intelligence', 'I am a computer engineer specializing in artificial intelligence and machine learning.', 'Information Technology', 'www.example.com'),

(41, 1, 'Experienced Software Engineer', 'I am a software engineer with expertise in web development and database management.', 'Information Technology', 'www.example.com'),

(42, 2, 'Passionate Writer and Editor', 'I am a writer and editor with a strong background in literature and journalism.', 'Media', 'www.example.com'),

(43, 3, 'Creative Marketing Professional', 'I am a marketing professional with a creative mindset and a track record of successful campaigns.', 'Marketing', 'www.example.com'),

(44, 4, 'Electrical Engineer with a focus on Renewable Energy', 'I am an electrical engineer specializing in renewable energy systems and sustainable design.', 'Engineering', 'www.example.com'),

(45, 5, 'Innovative Computer Scientist', 'I am a computer scientist with a passion for innovation and problem-solving.', 'Information Technology', 'www.example.com'),

(46, 6, 'Dedicated Psychologist', 'I am a psychologist dedicated to helping individuals improve their mental well-being.', 'Psychology', 'www.example.com'),

(47, 7, 'Finance Professional with expertise in Investment Banking', 'I am a finance professional with extensive experience in investment banking and financial analysis.', 'Finance', 'www.example.com'),

(48, 8, 'Experienced IT Consultant', 'I am an IT consultant with a focus on helping businesses optimize their technology infrastructure.', 'Information Technology', 'www.example.com'),

(49, 9, 'Passionate Physicist', 'I am a physicist passionate about exploring the mysteries of the universe through scientific research.', 'Science', 'www.example.com'),

(50, 10, 'History Enthusiast and Educator', 'I am a history enthusiast with a dedication to educating others about the past.', 'Education', 'www.example.com'),

(51, 11, 'Results-driven Management Professional', 'I am a management professional focused on achieving results and driving organizational success.', 'Management', 'www.example.com'),

(52, 12, 'Mechanical Engineer specializing in Robotics', 'I am a mechanical engineer specializing in robotics and automation.', 'Engineering', 'www.example.com'),

(53, 13, 'Mathematics Enthusiast and Educator', 'I am a mathematics enthusiast with a passion for teaching and inspiring others.', 'Education', 'www.example.com'),

(54, 14, 'Sociologist with expertise in Social Research', 'I am a sociologist with expertise in conducting social research and analyzing societal trends.', 'Social Sciences', 'www.example.com'),

(55, 15, 'Entrepreneurial Business Administrator', 'I am a business administrator with an entrepreneurial mindset and a focus on innovation.', 'Business', 'www.example.com'),

(56, 16, 'Civil Engineer specializing in Infrastructure Development', 'I am a civil engineer specializing in infrastructure development and urban planning.', 'Engineering', 'www.example.com'),

(57, 17, 'Chemist with a passion for Environmental Science', 'I am a chemist with a passion for environmental science and sustainability.', 'Science', 'www.example.com'),

(58, 18, 'Communications Specialist with expertise in Public Relations', 'I am a communications specialist with expertise in public relations and strategic communication.', 'Media', 'www.example.com'),

(59, 19, 'International Business Professional with a Global Perspective', 'I am an international business professional with a global perspective and cross-cultural experience.', 'Business', 'www.example.com'),

(60, 20, 'Computer Engineer with a focus on Artificial Intelligence', 'I am a computer engineer specializing in artificial intelligence and machine learning.', 'Information Technology', 'www.example.com'),(61, 1, 'Experienced Software Engineer', 'I am a software engineer with expertise in web development and database management.', 'Information Technology', 'www.example.com'),

(62, 2, 'Passionate Writer and Editor', 'I am a writer and editor with a strong background in literature and journalism.', 'Media', 'www.example.com'),

(63, 3, 'Creative Marketing Professional', 'I am a marketing professional with a creative mindset and a track record of successful campaigns.', 'Marketing', 'www.example.com'),

(64, 4, 'Electrical Engineer with a focus on Renewable Energy', 'I am an electrical engineer specializing in renewable energy systems and sustainable design.', 'Engineering', 'www.example.com'),

(65, 5, 'Innovative Computer Scientist', 'I am a computer scientist with a passion for innovation and problem-solving.', 'Information Technology', 'www.example.com'),

(66, 6, 'Dedicated Psychologist', 'I am a psychologist dedicated to helping individuals improve their mental well-being.', 'Psychology', 'www.example.com'),

(67, 7, 'Finance Professional with expertise in Investment Banking', 'I am a finance professional with extensive experience in investment banking and financial analysis.', 'Finance', 'www.example.com'),

(68, 8, 'Experienced IT Consultant', 'I am an IT consultant with a focus on helping businesses optimize their technology infrastructure.', 'Information Technology', 'www.example.com'),

(69, 9, 'Passionate Physicist', 'I am a physicist passionate about exploring the mysteries of the universe through scientific research.', 'Science', 'www.example.com'),

(70, 10, 'History Enthusiast and Educator', 'I am a history enthusiast with a dedication to educating others about the past.', 'Education', 'www.example.com'),

(71, 11, 'Results-driven Management Professional', 'I am a management professional focused on achieving results and driving organizational success.', 'Management', 'www.example.com'),

(72, 12, 'Mechanical Engineer specializing in Robotics', 'I am a mechanical engineer specializing in robotics and automation.', 'Engineering', 'www.example.com'),

(73, 13, 'Mathematics Enthusiast and Educator', 'I am a mathematics enthusiast with a passion for teaching and inspiring others.', 'Education', 'www.example.com'),

(74, 14, 'Sociologist with expertise in Social Research', 'I am a sociologist with expertise in conducting social research and analyzing societal trends.', 'Social Sciences', 'www.example.com'),

(75, 15, 'Entrepreneurial Business Administrator', 'I am a business administrator with an entrepreneurial mindset and a focus on innovation.', 'Business', 'www.example.com'),

(76, 16, 'Civil Engineer specializing in Infrastructure Development', 'I am a civil engineer specializing in infrastructure development and urban planning.', 'Engineering', 'www.example.com'),

(77, 17, 'Chemist with a passion for Environmental Science', 'I am a chemist with a passion for environmental science and sustainability.', 'Science', 'www.example.com'),

(78, 18, 'Communications Specialist with expertise in Public Relations', 'I am a communications specialist with expertise in public relations and strategic communication.', 'Media', 'www.example.com'),

(79, 19, 'International Business Professional with a Global Perspective', 'I am an international business professional with a global perspective and cross-cultural experience.', 'Business', 'www.example.com'),

(80, 20, 'Computer Engineer with a focus on Artificial Intelligence', 'I am a computer engineer specializing in artificial intelligence and machine learning.', 'Information Technology', 'www.example.com');

CREATE TABLE userGroups (

group\_id INT PRIMARY KEY,

user\_id INT,

group\_name VARCHAR(255),

FOREIGN KEY (user\_id) REFERENCES User(user\_id)

);

INSERT INTO userGroups (group\_id, user\_id, group\_name) VALUES

(1, 1, 'Software Engineers Group'),

(2, 2, 'Writers and Editors Circle'),

(3, 3, 'Creative Marketing Professionals Network'),

(4, 4, 'Renewable Energy Enthusiasts'),

(5, 5, 'Computer Science Club'),

(6, 6, 'Psychology Enthusiasts Community'),

(7, 7, 'Finance Professionals Association'),

(8, 8, 'IT Consultants Network'),

(9, 9, 'Physics Research Group'),

(10, 10, 'History Buffs Society'),

(11, 11, 'Management Professionals Forum'),

(12, 12, 'Robotics Enthusiasts Association'),

(13, 13, 'Mathematics Enthusiasts Society'),

(14, 14, 'Sociology Research Group'),

(15, 15, 'Entrepreneurs Network'),

(16, 16, 'Civil Engineers Forum'),

(17, 17, 'Environmental Science Enthusiasts'),

(18, 18, 'Communications Professionals Network'),

(19, 19, 'Global Business Network'),

(20, 20, 'Artificial Intelligence Enthusiasts Group'),

(21, 1, 'Software Engineers Group'),

(22, 2, 'Writers and Editors Circle'),

(23, 3, 'Creative Marketing Professionals Network'),

(24, 4, 'Renewable Energy Enthusiasts'),

(25, 5, 'Computer Science Club'),

(26, 6, 'Psychology Enthusiasts Community'),

(27, 7, 'Finance Professionals Association'),

(28, 8, 'IT Consultants Network'),

(29, 9, 'Physics Research Group'),

(30, 10, 'History Buffs Society'),

(31, 11, 'Management Professionals Forum'),

(32, 12, 'Robotics Enthusiasts Association'),

(33, 13, 'Mathematics Enthusiasts Society'),

(34, 14, 'Sociology Research Group'),

(35, 15, 'Entrepreneurs Network'),

(36, 16, 'Civil Engineers Forum'),

(37, 17, 'Environmental Science Enthusiasts'),

(38, 18, 'Communications Professionals Network'),

(39, 19, 'Global Business Network'),

(40, 20, 'Artificial Intelligence Enthusiasts Group'),

(41, 1, 'Software Engineers Group'),

(42, 2, 'Writers and Editors Circle'),

(43, 3, 'Creative Marketing Professionals Network'),

(44, 4, 'Renewable Energy Enthusiasts'),

(45, 5, 'Computer Science Club'),

(46, 6, 'Psychology Enthusiasts Community'),

(47, 7, 'Finance Professionals Association'),

(48, 8, 'IT Consultants Network'),

(49, 9, 'Physics Research Group'),

(50, 10, 'History Buffs Society'),

(51, 11, 'Management Professionals Forum'),

(52, 12, 'Robotics Enthusiasts Association'),

(53, 13, 'Mathematics Enthusiasts Society'),

(54, 14, 'Sociology Research Group'),

(55, 15, 'Entrepreneurs Network'),

(56, 16, 'Civil Engineers Forum'),

(57, 17, 'Environmental Science Enthusiasts'),

(58, 18, 'Communications Professionals Network'),

(59, 19, 'Global Business Network'),

(60, 20, 'Artificial Intelligence Enthusiasts Group'),

(61, 1, 'Software Engineers Group'),

(62, 2, 'Writers and Editors Circle'),

(63, 3, 'Creative Marketing Professionals Network'),

(64, 4, 'Renewable Energy Enthusiasts'),

(65, 5, 'Computer Science Club'),

(66, 6, 'Psychology Enthusiasts Community'),

(67, 7, 'Finance Professionals Association'),

(68, 8, 'IT Consultants Network'),

(69, 9, 'Physics Research Group'),

(70, 10, 'History Buffs Society'),

(71, 11, 'Management Professionals Forum'),

(72, 12, 'Robotics Enthusiasts Association'),

(73, 13, 'Mathematics Enthusiasts Society'),

(74, 14, 'Sociology Research Group'),

(75, 15, 'Entrepreneurs Network'),

(76, 16, 'Civil Engineers Forum'),

(77, 17, 'Environmental Science Enthusiasts'),

(78, 18, 'Communications Professionals Network'),

(79, 19, 'Global Business Network'),

(80, 20, 'Artificial Intelligence Enthusiasts Group');

CREATE TABLE Group\_Members (

group\_member\_id INT PRIMARY KEY,

group\_id INT,

user\_id INT,

FOREIGN KEY (group\_id) REFERENCES userGroups(group\_id),

FOREIGN KEY (user\_id) REFERENCES User(user\_id)

);

INSERT INTO Group\_Members (group\_member\_id, group\_id, user\_id) VALUES

(1, 1, 1),

(2, 2, 2),

(3, 3, 3),

(4, 4, 4),

(5, 5, 5),

(6, 6, 6),

(7, 7, 7),

(8, 8, 8),

(9, 9, 9),

(10, 10, 10),

(11, 11, 11),

(12, 12, 12),

(13, 13, 13),

(14, 14, 14),

(15, 15, 15),

(16, 16, 16),

(17, 17, 17),

(18, 18, 18),

(19, 19, 19),

(20, 20, 20);

CREATE TABLE Group\_Group\_Member (

group\_group\_member\_id INT PRIMARY KEY,

group\_id INT,

group\_member\_id INT,

FOREIGN KEY (group\_id) REFERENCES userGroups(group\_id),

FOREIGN KEY (group\_member\_id) REFERENCES Group\_Members(group\_member\_id)

);

INSERT INTO Group\_Group\_Member (group\_group\_member\_id, group\_id, group\_member\_id) VALUES

(1, 1, 1),

(2, 2, 2),

(3, 3, 3),

(4, 4, 4),

(5, 5, 5),

(6, 6, 6),

(7, 7, 7),

(8, 8, 8),

(9, 9, 9),

(10, 10, 10),

(11, 11, 11),

(12, 12, 12),

(13, 13, 13),

(14, 14, 14),

(15, 15, 15),

(16, 16, 16),

(17, 17, 17),

(18, 18, 18),

(19, 19, 19),

(20, 20, 20);

CREATE TABLE Skills (

skill\_id INT PRIMARY KEY,

user\_id INT,

skill\_name VARCHAR(255),

FOREIGN KEY (user\_id) REFERENCES User(user\_id)

);

INSERT INTO Skills (skill\_id, user\_id, skill\_name) VALUES

(1, 1, 'JavaScript'),

(2, 2, 'Creative Writing'),

(3, 3, 'Digital Marketing'),

(4, 4, 'Renewable Energy Systems'),

(5, 5, 'Python Programming'),

(6, 6, 'Clinical Psychology'),

(7, 7, 'Financial Analysis'),

(8, 8, 'Network Security'),

(9, 9, 'Quantum Mechanics'),

(10, 10, 'Historical Research'),

(11, 11, 'Strategic Management'),

(12, 12, 'Robotics Engineering'),

(13, 13, 'Advanced Calculus'),

(14, 14, 'Social Research Methods'),

(15, 15, 'Entrepreneurship'),

(16, 16, 'Structural Engineering'),

(17, 17, 'Environmental Chemistry'),

(18, 18, 'Public Relations'),

(19, 19, 'Cross-Cultural Communication'),

(20, 20, 'Machine Learning'),

(21, 1, 'React.js'),

(22, 2, 'Fiction Writing'),

(23, 3, 'Content Marketing'),

(24, 4, 'Solar Energy'),

(25, 5, 'Data Analysis'),

(26, 6, 'Cognitive Behavioral Therapy'),

(27, 7, 'Investment Banking'),

(28, 8, 'Cloud Computing'),

(29, 9, 'Particle Physics'),

(30, 10, 'Archival Research'),

(31, 11, 'Leadership Development'),

(32, 12, 'Control Systems'),

(33, 13, 'Number Theory'),

(34, 14, 'Qualitative Analysis'),

(35, 15, 'Startup Management'),

(36, 16, 'Transportation Engineering'),

(37, 17, 'Pollution Control'),

(38, 18, 'Media Relations'),

(39, 19, 'International Negotiation'),

(40, 20, 'Deep Learning'),

(41, 1, 'Node.js'),

(42, 2, 'Journalism'),

(43, 3, 'SEO'),

(44, 4, 'Wind Energy'),

(45, 5, 'Machine Learning'),

(46, 6, 'Family Therapy'),

(47, 7, 'Corporate Finance'),

(48, 8, 'Database Management'),

(49, 9, 'String Theory'),

(50, 10, 'Historical Analysis'),

(51, 11, 'Change Management'),

(52, 12, 'Artificial Intelligence'),

(53, 13, 'Differential Equations'),

(54, 14, 'Ethnographic Research'),

(55, 15, 'Venture Capital'),

(56, 16, 'Urban Planning'),

(57, 17, 'Analytical Chemistry'),

(58, 18, 'Crisis Communication'),

(59, 19, 'Global Strategy'),

(60, 20, 'Natural Language Processing'),

(61, 1, 'HTML'),

(62, 2, 'Editing'),

(63, 3, 'Social Media Marketing'),

(64, 4, 'Bioenergy'),

(65, 5, 'Java Programming'),

(66, 6, 'Child Psychology'),

(67, 7, 'Financial Modeling'),

(68, 8, 'Virtualization'),

(69, 9, 'Astrophysics'),

(70, 10, 'Museum Curation'),

(71, 11, 'Project Management'),

(72, 12, 'Embedded Systems'),

(73, 13, 'Linear Algebra'),

(74, 14, 'Survey Design'),

(75, 15, 'Product Development'),

(76, 16, 'Water Resources Engineering'),

(77, 17, 'Organic Chemistry'),

(78, 18, 'Event Planning'),

(79, 19, 'Diplomacy'),

(80, 20, 'Computer Vision');

CREATE TABLE User\_Skills (

user\_skill\_id INT PRIMARY KEY,

user\_id INT,

skill\_id INT,

FOREIGN KEY (user\_id) REFERENCES User(user\_id),

FOREIGN KEY (skill\_id) REFERENCES Skills(skill\_id)

);

INSERT INTO User\_Skills (user\_skill\_id, user\_id, skill\_id) VALUES

(1, 1, 1),

(2, 1, 21),

(3, 1, 41),

(4, 2, 2),

(5, 2, 22),

(6, 2, 42),

(7, 3, 3),

(8, 3, 23),

(9, 3, 43),

(10, 4, 4),

(11, 4, 24),

(12, 4, 44),

(13, 5, 5),

(14, 5, 25),

(15, 5, 45),

(16, 6, 6),

(17, 6, 26),

(18, 6, 46),

(19, 7, 7),

(20, 7, 27);

CREATE TABLE Post (

post\_id INT PRIMARY KEY,

user\_id INT,

content TEXT,

post\_date DATETIME,

FOREIGN KEY (user\_id) REFERENCES User(user\_id)

);

INSERT INTO Post (post\_id, user\_id, content, post\_date) VALUES

(1, 1, 'Just finished a new JavaScript project. Feeling accomplished!', '2024-06-01 09:30:00'),

(2, 2, 'Just published a new article on creative writing techniques.', '2024-06-02 11:15:00'),

(3, 3, 'Excited to launch our new digital marketing campaign tomorrow!', '2024-06-03 14:45:00'),

(4, 4, 'Installed a new solar energy system today. It''s great to be more eco-friendly!', '2024-06-04 16:20:00'),

(5, 5, 'Completed a machine learning project using Python. Feeling proud!', '2024-06-05 18:00:00'),

(6, 6, 'Today, I helped a child overcome their fear of spiders. Small victories matter!', '2024-06-06 20:10:00'),

(7, 7, 'Analyzing market trends for potential investment opportunities.', '2024-06-07 09:30:00'),

(8, 8, 'Implemented new security measures for our network infrastructure.', '2024-06-08 11:45:00'),

(9, 9, 'Studying the behavior of particles in quantum mechanics.', '2024-06-09 14:00:00'),

(10, 10, 'Discovered fascinating historical documents at the museum today.', '2024-06-10 16:30:00'),

(11, 11, 'Leading a team to implement strategic changes in our organization.', '2024-06-11 18:45:00'),

(12, 12, 'Developed a new algorithm for controlling robotic systems.', '2024-06-12 20:55:00'),

(13, 13, 'Solving complex calculus problems with ease.', '2024-06-13 09:30:00'),

(14, 14, 'Conducting interviews for my sociology research project.', '2024-06-14 11:00:00'),

(15, 15, 'Launching my startup with innovative product ideas.', '2024-06-15 13:15:00'),

(16, 16, 'Designing sustainable urban infrastructure for future cities.', '2024-06-16 15:40:00'),

(17, 17, 'Researching methods to reduce pollution in our environment.', '2024-06-17 17:50:00'),

(18, 18, 'Handling media relations for a high-profile event.', '2024-06-18 19:30:00'),

(19, 19, 'Negotiating international agreements for global cooperation.', '2024-06-19 21:00:00'),

(20, 20, 'Developed an advanced computer vision algorithm.', '2024-06-20 09:30:00'),

(21, 1, 'Working on a new React.js component for our website.', '2024-06-21 11:15:00'),

(22, 2, 'Editing my latest novel manuscript for publication.', '2024-06-22 14:00:00'),

(23, 3, 'Optimizing SEO strategies for better online visibility.', '2024-06-23 16:20:00'),

(24, 4, 'Researching new bioenergy sources for sustainable power.', '2024-06-24 18:45:00'),

(25, 5, 'Implementing data analysis techniques for business insights.', '2024-06-25 20:30:00'),

(26, 6, 'Providing counseling sessions for families in need.', '2024-06-26 09:30:00'),

(27, 7, 'Analyzing financial data for investment decision-making.', '2024-06-27 11:45:00'),

(28, 8, 'Managing databases for efficient data storage and retrieval.', '2024-06-28 14:00:00'),

(29, 9, 'Exploring theoretical concepts in astrophysics.', '2024-06-29 16:15:00'),

(30, 10, 'Curating historical artifacts for an upcoming exhibition.', '2024-06-30 18:30:00'),

(31, 11, 'Implementing change management strategies for organizational improvement.', '2024-07-01 20:45:00'),

(32, 12, 'Experimenting with AI algorithms for autonomous systems.', '2024-07-02 09:30:00'),

(33, 13, 'Applying differential equations to model physical phenomena.', '2024-07-03 11:00:00'),

(34, 14, 'Conducting fieldwork for qualitative research analysis.', '2024-07-04 13:20:00'),

(35, 15, 'Pitching new product ideas to potential investors.', '2024-07-05 15:40:00'),

(36, 16, 'Designing transportation systems for efficient urban mobility.', '2024-07-06 17:55:00'),

(37, 17, 'Investigating methods to mitigate chemical pollution in water bodies.', '2024-07-07 20:10:00'),

(38, 18, 'Managing crisis communication during a PR emergency.', '2024-07-08 09:30:00'),

(39, 19, 'Participating in diplomatic negotiations for peace treaties.', '2024-07-09 11:45:00'),

(40, 20, 'Building advanced neural networks for image recognition.', '2024-07-10 14:00:00'),

(41, 1, 'Collaborating with team members on a Node.js project.', '2024-07-11 16:30:00'),

(42, 2, 'Interviewing sources for investigative journalism.', '2024-07-12 18:45:00'),

(43, 3, 'Optimizing website content for higher search engine rankings.', '2024-07-13 20:00:00'),

(44, 4, 'Experimenting with wind turbines for renewable energy generation.', '2024-07-14 09:30:00'),

(45, 5, 'Developing predictive models using machine learning algorithms.', '2024-07-15 11:15:00'),

(46, 6, 'Providing therapy sessions for children with behavioral issues.', '2024-07-16 13:30:00'),

(47, 7, 'Analyzing financial markets for potential investment opportunities.', '2024-07-17 15:45:00'),

(48, 8, 'Designing relational databases for efficient data management.', '2024-07-18 17:55:00'),

(49, 9, 'Studying the implications of string theory on cosmology.', '2024-07-19 20:10:00'),

(50, 10, 'Researching historical documents for evidence of past events.', '2024-07-20 09:30:00'),

(51, 11, 'Leading team-building activities for improved teamwork.', '2024-07-21 11:45:00'),

(52, 12, 'Creating AI-driven chatbots for customer service applications.', '2024-07-22 14:00:00'),

(53, 13, 'Solving differential equations to model physical systems.', '2024-07-23 16:20:00'),

(54, 14, 'Conducting participant observation for ethnographic research.', '2024-07-24 18:30:00'),

(55, 15, 'Securing funding from venture capitalists for startup growth.', '2024-07-25 20:45:00'),

(56, 16, 'Designing sustainable transportation solutions for cities.', '2024-07-26 09:30:00'),

(57, 17, 'Analyzing chemical composition of soil samples for environmental studies.', '2024-07-27 11:15:00'),

(58, 18, 'Managing media responses during a crisis situation.', '2024-07-28 13:30:00'),

(59, 19, 'Negotiating trade agreements for economic cooperation.', '2024-07-29 15:45:00'),

(60, 20, 'Developing algorithms for natural language understanding.', '2024-07-30 17:55:00'),

(61, 1, 'Building dynamic web applications using React.js.', '2024-07-31 20:10:00'),

(62, 2, 'Writing articles on current events for a news publication.', '2024-08-01 09:30:00'),

(63, 3, 'Implementing social media advertising campaigns for brand awareness.', '2024-08-02 11:45:00'),

(64, 4, 'Experimenting with biofuel production methods in the lab.', '2024-08-03 14:00:00'),

(65, 5, 'Analyzing big data using Python for business insights.', '2024-08-04 16:20:00'),

(66, 6, 'Providing therapy sessions for adolescents dealing with depression.', '2024-08-05 18:45:00'),

(67, 7, 'Researching investment opportunities in emerging markets.', '2024-08-06 20:30:00'),

(68, 8, 'Optimizing database performance for faster query execution.', '2024-08-07 09:30:00'),

(69, 9, 'Exploring the mysteries of black holes in astrophysics.', '2024-08-08 11:15:00'),

(70, 10, 'Cataloging historical artifacts for museum exhibitions.', '2024-08-09 13:30:00'),

(71, 11, 'Implementing organizational change initiatives for efficiency.', '2024-08-10 15:45:00'),

(72, 12, 'Developing machine learning models for autonomous vehicles.', '2024-08-11 17:55:00'),

(73, 13, 'Applying differential equations to model population dynamics.', '2024-08-12 20:10:00'),

(74, 14, 'Analyzing cultural practices in diverse communities.', '2024-08-13 09:30:00'),

(75, 15, 'Expanding market reach through digital marketing strategies.', '2024-08-14 11:45:00'),

(76, 16, 'Designing eco-friendly infrastructure for urban development.', '2024-08-15 14:00:00'),

(77, 17, 'Investigating the impact of industrial pollutants on aquatic ecosystems.', '2024-08-16 16:20:00'),

(78, 18, 'Managing public relations during major corporate events.', '2024-08-17 18:30:00'),

(79, 19, 'Participating in diplomatic talks to resolve international disputes.', '2024-08-18 20:45:00'),

(80, 20, 'Creating innovative algorithms for natural language processing.', '2024-08-19 09:30:00');

CREATE TABLE Share (

share\_id INT PRIMARY KEY,

user\_id INT,

post\_id INT,

FOREIGN KEY (user\_id) REFERENCES User(user\_id),

FOREIGN KEY (post\_id) REFERENCES Post(post\_id)

);

INSERT INTO Share (share\_id, user\_id, post\_id) VALUES

(1, 2, 1),

(2, 3, 2),

(3, 4, 3),

(4, 5, 4),

(5, 6, 5),

(6, 7, 6),

(7, 8, 7),

(8, 9, 8),

(9, 10, 9),

(10, 11, 10),

(11, 12, 11),

(12, 13, 12),

(13, 14, 13),

(14, 15, 14),

(15, 16, 15),

(16, 17, 16),

(17, 18, 17),

(18, 19, 18),

(19, 20, 19),

(20, 1, 20),

(21, 2, 21),

(22, 3, 22),

(23, 4, 23),

(24, 5, 24),

(25, 6, 25),

(26, 7, 26),

(27, 8, 27),

(28, 9, 28),

(29, 10, 29),

(30, 11, 30),

(31, 12, 31),

(32, 13, 32),

(33, 14, 33),

(34, 15, 34),

(35, 16, 35),

(36, 17, 36),

(37, 18, 37),

(38, 19, 38),

(39, 20, 39),

(40, 1, 40),

(41, 2, 41),

(42, 3, 42),

(43, 4, 43),

(44, 5, 44),

(45, 6, 45),

(46, 7, 46),

(47, 8, 47),

(48, 9, 48),

(49, 10, 49),

(50, 11, 50),

(51, 12, 51),

(52, 13, 52),

(53, 14, 53),

(54, 15, 54),

(55, 16, 55),

(56, 17, 56),

(57, 18, 57),

(58, 19, 58),

(59, 20, 59),

(60, 1, 60),

(61, 2, 61),

(62, 3, 62),

(63, 4, 63),

(64, 5, 64),

(65, 6, 65),

(66, 7, 66),

(67, 8, 67),

(68, 9, 68),

(69, 10, 69),

(70, 11, 70),

(71, 12, 71),

(72, 13, 72),

(73, 14, 73),

(74, 15, 74),

(75, 16, 75),

(76, 17, 76),

(77, 18, 77),

(78, 19, 78),

(79, 20, 79),

(80, 1, 80);

CREATE TABLE Comment (

comment\_id INT PRIMARY KEY,

user\_id INT,

post\_id INT,

content TEXT,

comment\_date DATETIME,

FOREIGN KEY (user\_id) REFERENCES User(user\_id),

FOREIGN KEY (post\_id) REFERENCES Post(post\_id)

);

INSERT INTO Comment (comment\_id, user\_id, post\_id, content, comment\_date) VALUES

(1, 2, 1, 'Great job on the JavaScript project!', '2024-06-01 10:00:00'),

(2, 3, 2, 'Your writing skills are impressive!', '2024-06-02 12:00:00'),

(3, 4, 3, 'Looking forward to seeing the campaign!', '2024-06-03 15:00:00'),

(4, 5, 4, 'That''s fantastic! Go green!', '2024-06-04 17:00:00'),

(5, 6, 5, 'Awesome work with Python!', '2024-06-05 19:00:00'),

(6, 7, 6, 'Small victories indeed! Keep it up!', '2024-06-06 21:00:00'),

(7, 8, 7, 'Market trends analysis is crucial.', '2024-06-07 10:00:00'),

(8, 9, 8, 'Security measures are always necessary.', '2024-06-08 12:00:00'),

(9, 10, 9, 'Quantum mechanics is mind-bending!', '2024-06-09 15:00:00'),

(10, 11, 10, 'Historical research is fascinating!', '2024-06-10 17:00:00'),

(11, 12, 11, 'Strategic changes are important for growth.', '2024-06-11 19:00:00'),

(12, 13, 12, 'Controlling robotic systems is cool!', '2024-06-12 21:00:00'),

(13, 14, 13, 'Calculus can be challenging but rewarding.', '2024-06-13 10:00:00'),

(14, 15, 14, 'Good luck with your startup!', '2024-06-14 12:00:00'),

(15, 16, 15, 'Sustainable urban planning is the future.', '2024-06-15 15:00:00'),

(16, 17, 16, 'Pollution control is vital for our environment.', '2024-06-16 17:00:00'),

(17, 18, 17, 'Media relations require finesse.', '2024-06-17 19:00:00'),

(18, 19, 18, 'Diplomacy is key to global cooperation.', '2024-06-18 21:00:00'),

(19, 20, 19, 'Impressive work in computer vision!', '2024-06-19 10:00:00'),

(20, 1, 20, 'Keep up the great work!', '2024-06-20 12:00:00'),

(21, 2, 21, 'Looking forward to seeing the React.js component!', '2024-06-21 15:00:00'),

(22, 3, 22, 'Your novel sounds intriguing!', '2024-06-22 17:00:00'),

(23, 4, 23, 'SEO is crucial for online visibility.', '2024-06-23 19:00:00'),

(24, 5, 24, 'Great research on bioenergy!', '2024-06-24 21:00:00'),

(25, 6, 25, 'Data analysis is invaluable for decision-making.', '2024-06-25 10:00:00'),

(26, 7, 26, 'Therapy sessions make a difference.', '2024-06-26 12:00:00'),

(27, 8, 27, 'Investment decisions require careful analysis.', '2024-06-27 15:00:00'),

(28, 9, 28, 'Database management is essential.', '2024-06-28 17:00:00'),

(29, 10, 29, 'String theory is mind-blowing!', '2024-06-29 19:00:00'),

(30, 11, 30, 'Fascinating historical artifacts!', '2024-06-30 21:00:00'),

(31, 12, 31, 'Change management is challenging but necessary.', '2024-07-01 10:00:00'),

(32, 13, 32, 'AI-driven chatbots are the future of customer service.', '2024-07-02 12:00:00'),

(33, 14, 33, 'Ethnographic research provides valuable insights.', '2024-07-03 15:00:00'),

(34, 15, 34, 'Startup growth requires dedication.', '2024-07-04 17:00:00'),

(35, 16, 35, 'Sustainable transportation is a necessity.', '2024-07-05 19:00:00'),

(36, 17, 36, 'Environmental studies are important for our planet.', '2024-07-06 21:00:00'),

(37, 18, 37, 'Crisis communication is critical during emergencies.', '2024-07-07 10:00:00'),

(38, 19, 38, 'Diplomatic negotiations shape our world.', '2024-07-08 12:00:00'),

(39, 20, 39, 'Natural language understanding is advancing rapidly.', '2024-07-09 15:00:00'),

(40, 1, 40, 'Great insights!', '2024-07-10 17:00:00'),

(41, 2, 41, 'React.js is powerful for web development.', '2024-07-11 19:00:00'),

(42, 3, 42, 'Journalism is a vital part of society.', '2024-07-12 21:00:00'),

(43, 4, 43, 'SEO optimization leads to better visibility.', '2024-07-13 10:00:00'),

(44, 5, 44, 'Renewable energy is the way forward.', '2024-07-14 12:00:00'),

(45, 6, 45, 'Python is versatile for data analysis.', '2024-07-15 15:00:00'),

(46, 7, 46, 'Therapy can make a significant impact.', '2024-07-16 17:00:00'),

(47, 8, 47, 'Financial markets require careful monitoring.', '2024-07-17 19:00:00'),

(48, 9, 48, 'Database performance is crucial for efficiency.', '2024-07-18 21:00:00'),

(49, 10, 49, 'Astrophysics opens up a world of possibilities.', '2024-07-19 10:00:00'),

(50, 11, 50, 'Historical research sheds light on the past.', '2024-07-20 12:00:00'),

(51, 12, 51, 'Team-building fosters collaboration.', '2024-07-21 15:00:00'),

(52, 13, 52, 'AI-driven chatbots improve customer experience.', '2024-07-22 17:00:00'),

(53, 14, 53, 'Ethnographic research provides cultural insights.', '2024-07-23 19:00:00'),

(54, 15, 54, 'Startup funding is essential for growth.', '2024-07-24 21:00:00'),

(55, 16, 55, 'Sustainable transportation reduces emissions.', '2024-07-25 10:00:00'),

(56, 17, 56, 'Chemical pollution harms our environment.', '2024-07-26 12:00:00'),

(57, 18, 57, 'Media relations can shape public perception.', '2024-07-27 15:00:00'),

(58, 19, 58, 'Diplomacy fosters international cooperation.', '2024-07-28 17:00:00'),

(59, 20, 59, 'Natural language processing revolutionizes AI.', '2024-07-29 19:00:00'),

(60, 1, 60, 'Keep up the good work!', '2024-07-30 21:00:00'),

(61, 2, 61, 'React.js components enhance website functionality.', '2024-07-31 10:00:00'),

(62, 3, 62, 'Investigative journalism exposes truth.', '2024-08-01 12:00:00'),

(63, 4, 63, 'SEO strategies drive online success.', '2024-08-02 15:00:00'),

(64, 5, 64, 'Bioenergy offers sustainable solutions.', '2024-08-03 17:00:00'),

(65, 6, 65, 'Python is versatile for data science.', '2024-08-04 19:00:00'),

(66, 7, 66, 'Therapy improves mental well-being.', '2024-08-05 21:00:00'),

(67, 8, 67, 'Financial analysis guides investment decisions.', '2024-08-06 10:00:00'),

(68, 9, 68, 'Efficient database management enhances performance.', '2024-08-07 12:00:00'),

(69, 10, 69, 'String theory challenges our understanding of the universe.', '2024-08-08 15:00:00'),

(70, 11, 70, 'Historical artifacts provide glimpses into the past.', '2024-08-09 17:00:00'),

(71, 12, 71, 'Organizational change drives growth.', '2024-08-10 19:00:00'),

(72, 13, 72, 'Machine learning enhances autonomous vehicles.', '2024-08-11 21:00:00'),

(73, 14, 73, 'Cultural analysis reveals societal dynamics.', '2024-08-12 10:00:00'),

(74, 15, 74, 'Digital marketing expands market reach.', '2024-08-13 12:00:00'),

(75, 16, 75, 'Sustainable infrastructure supports urban development.', '2024-08-14 15:00:00'),

(76, 17, 76, 'Industrial pollutants threaten aquatic ecosystems.', '2024-08-15 17:00:00'),

(77, 18, 77, 'Crisis management is essential for corporate events.', '2024-08-16 19:00:00'),

(78, 19, 78, 'Diplomatic talks aim for global peace.', '2024-08-17 21:00:00'),

(79, 20, 79, 'Advanced algorithms power natural language processing.', '2024-08-18 10:00:00'),

(80, 1, 80, 'Excellent contribution!', '2024-08-19 12:00:00');

CREATE TABLE Likes (

like\_id INT PRIMARY KEY,

user\_id INT,

post\_id INT,

FOREIGN KEY (user\_id) REFERENCES User(user\_id),

FOREIGN KEY (post\_id) REFERENCES Post(post\_id)

);

INSERT INTO Likes (like\_id, user\_id, post\_id) VALUES

(1, 2, 1),

(2, 3, 2),

(3, 4, 3),

(4, 5, 4),

(5, 6, 5),

(6, 7, 6),

(7, 8, 7),

(8, 9, 8),

(9, 10, 9),

(10, 11, 10),

(11, 12, 11),

(12, 13, 12),

(13, 14, 13),

(14, 15, 14),

(15, 16, 15),

(16, 17, 16),

(17, 18, 17),

(18, 19, 18),

(19, 20, 19),

(20, 1, 20),

(21, 2, 21),

(22, 3, 22),

(23, 4, 23),

(24, 5, 24),

(25, 6, 25),

(26, 7, 26),

(27, 8, 27),

(28, 9, 28),

(29, 10, 29),

(30, 11, 30),

(31, 12, 31),

(32, 13, 32),

(33, 14, 33),

(34, 15, 34),

(35, 16, 35),

(36, 17, 36),

(37, 18, 37),

(38, 19, 38),

(39, 20, 39),

(40, 1, 40),

(41, 2, 41),

(42, 3, 42),

(43, 4, 43),

(44, 5, 44),

(45, 6, 45),

(46, 7, 46),

(47, 8, 47),

(48, 9, 48),

(49, 10, 49),

(50, 11, 50),

(51, 12, 51),

(52, 13, 52),

(53, 14, 53),

(54, 15, 54),

(55, 16, 55),

(56, 17, 56),

(57, 18, 57),

(58, 19, 58),

(59, 20, 59),

(60, 1, 60),

(61, 2, 61),

(62, 3, 62),

(63, 4, 63),

(64, 5, 64),

(65, 6, 65),

(66, 7, 66),

(67, 8, 67),

(68, 9, 68),

(69, 10, 69),

(70, 11, 70),

(71, 12, 71),

(72, 13, 72),

(73, 14, 73),

(74, 15, 74),

(75, 16, 75),

(76, 17, 76),

(77, 18, 77),

(78, 19, 78),

(79, 20, 79),

(80, 1, 80);

**QUERIES**

**-- 1. Retrieve all users who joined after a certain date and are located in a specific location, sorted by their join date.**

SELECT \* FROM User

WHERE join\_date > '2020-01-01' AND location = 'Lahore'

ORDER BY join\_date DESC;

**-- 2. List all users along with their experiences and education details.**

SELECT u.name, e.company\_name, edu.school\_name

FROM User u

LEFT JOIN User\_Experience ue ON u.user\_id = ue.user\_id

LEFT JOIN Experience e ON ue.experience\_id = e.experience\_id

LEFT JOIN User\_Education uedu ON u.user\_id = uedu.user\_id

LEFT JOIN Education edu ON uedu.education\_id = edu.education\_id;

**-- 3. Find the users who have a specific skill.**

SELECT u.name

FROM User u

INNER JOIN User\_Skills us ON u.user\_id = us.user\_id

INNER JOIN Skills s ON us.skill\_id = s.skill\_id

WHERE s.skill\_name like 'JavaScript';

**-- 4. Retrieve all posts along with the number of likes and comments each post has, ordered by the total count of likes and comments.**

SELECT p.post\_id, p.content, COUNT(l.like\_id) AS like\_count, COUNT(c.comment\_id) AS comment\_count

FROM Post p

LEFT JOIN Likes l ON p.post\_id = l.post\_id

LEFT JOIN Comment c ON p.post\_id = c.post\_id

GROUP BY p.post\_id

ORDER BY (like\_count + comment\_count) DESC;

**-- 5. Find the users who have not made any posts yet.**

SELECT u.name

FROM User u

LEFT JOIN Post p ON u.user\_id = p.user\_id

WHERE p.post\_id IS NULL;

**-- 6. List all users along with the number of connections each user has, sorted by the connection count.**

SELECT u.name, COUNT(uc.user\_connection\_id) AS connection\_count

FROM User u

LEFT JOIN User\_Connection uc ON u.user\_id = uc.user\_id

GROUP BY u.user\_id

ORDER BY connection\_count DESC;

**-- 7. Retrieve all users along with their most recent post.**

SELECT u.name, p.content, p.post\_date

FROM User u

LEFT JOIN Post p ON u.user\_id = p.user\_id

WHERE p.post\_date = (SELECT MAX(post\_date) FROM Post WHERE user\_id = u.user\_id);

**-- 8. List all users who have shared a post along with the number of shares each user has made.**

SELECT u.name, COUNT(s.share\_id) AS share\_count

FROM User u

LEFT JOIN Share s ON u.user\_id = s.user\_id

GROUP BY u.user\_id;

**-- 9. Find the users who have experiences in a specific company.**

SELECT DISTINCT u.name

FROM User u

JOIN User\_Experience ue ON u.user\_id = ue.user\_id

JOIN Experience e ON ue.experience\_id = e.experience\_id

WHERE e.company\_name = 'Mu Solutions';

**-- 10. Retrieve all users along with their education details, showing only those who have a degree.**

SELECT u.name, edu.school\_name, edu.degree

FROM User u

LEFT JOIN User\_Education ue ON u.user\_id = ue.user\_id

LEFT JOIN Education edu ON ue.education\_id = edu.education\_id

WHERE edu.degree IS NOT NULL;

**-- 11. List all users who are connected and their connections.**

SELECT u.name AS user\_name, c.connection\_status, uc.connection\_id AS connection\_name

FROM User u

JOIN User\_Connection uc ON u.user\_id = uc.user\_id

JOIN Connection c ON uc.connection\_id = c.connection\_id;

**-- 12. Retrieve all users who have commented on a specific post.**

SELECT u.name

FROM User u

JOIN Comment c ON u.user\_id = c.user\_id

WHERE c.post\_id = 55;

**-- 13. Find the users whose name started with s.**

SELECT name

FROM User

WHERE name like 's%';

**-- 14. List all users along with the number of posts each user has made, sorted by the post count.**

SELECT u.name, COUNT(p.post\_id) AS post\_count

FROM User u

LEFT JOIN Post p ON u.user\_id = p.user\_id

GROUP BY u.user\_id

ORDER BY post\_count DESC;

**-- 15. Retrieve all users who have worked in multiple companies, along with the count of companies they have worked for.**

SELECT u.name, COUNT(DISTINCT e.company\_name) AS company\_count

FROM User u

JOIN User\_Experience ue ON u.user\_id = ue.user\_id

JOIN Experience e ON ue.experience\_id = e.experience\_id

GROUP BY u.user\_id

HAVING COUNT(DISTINCT e.company\_name) > 1;

**-- 16. List all users along with their skills.**

SELECT u.name, s.skill\_name

FROM User u

LEFT JOIN User\_Skills us ON u.user\_id = us.user\_id

LEFT JOIN Skills s ON us.skill\_id = s.skill\_id;

**-- 17. Retrieve all users along with their connections who have a specific skill.**

SELECT u.name AS user\_name, uc.name AS connection\_name

FROM User u

JOIN User\_Connection uc ON u.user\_id = uc.user\_id

JOIN User\_Skills us ON uc.user\_id = us.user\_id

JOIN Skills s ON us.skill\_id = s.skill\_id

WHERE s.skill\_name = 'JavaScript';

**-- 18. Find the users who have education records but no experience records.**

SELECT u.name

FROM User u

LEFT JOIN User\_Education ue ON u.user\_id = ue.user\_id

LEFT JOIN User\_Experience ux ON u.user\_id = ux.user\_id

WHERE ux.experience\_id IS NULL;

**-- 19. List all users along with the number of shares they have made, sorted by the share count.**

SELECT u.name, COUNT(s.share\_id) AS share\_count

FROM User u

LEFT JOIN Share s ON u.user\_id = s.user\_id

GROUP BY u.user\_id

ORDER BY share\_count DESC;

**-- 20. Retrieve all users who have a specific headline in their profile, along with their skills.**

SELECT u.name, p.headline, s.skill\_name

FROM User u

JOIN Profile p ON u.user\_id = p.user\_id

LEFT JOIN User\_Skills us ON u.user\_id = us.user\_id

LEFT JOIN Skills s ON us.skill\_id = s.skill\_id

WHERE p.headline LIKE '%Software Engineer%';