TASK 4:-

- **CREATE THE TABLE STUDENT:-**

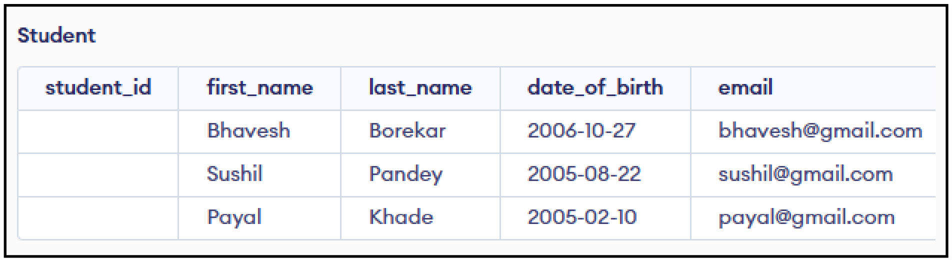
```
CREATE TABLE student (
   student_id INT AUTO_INCREMENT PRIMARY KEY,
   first_name VARCHAR(100) NOT NULL,
   last_name VARCHAR(100) NOT NULL,
   date_of_birth DATE,
   email VARCHAR(100) UNIQUE
);
```

- **INSERT DATA INTO TABLE STUDENT:-**

```
INSERT INTO student (first_name, last_name, date_of_birth, email)
VALUES ('Bhavesh', 'Borekar', '2006-10-27', 'bhavesh@gmail.com'),
     ('Sushil', 'Pandey', '2005-08-22', 'sushil@gmail.com'),
     ('Payal', 'Khade', '2005-02-10', 'payal@gmail.com');
```

- **SHOW THE TABLE STUDENT**

```
SELECT * FROM student;
```



Student

student_id	first_name	last_name	date_of_birth	email
	Bhavesh	Borekar	2006-10-27	bhavesh@gmail.com
	Sushil	Pandey	2005-08-22	sushil@gmail.com
	Payal	Khade	2005-02-10	payal@gmail.com

- **SIMULATE RESTORE BY RE-INSERTING DATA**

```
 INSERT INTO student (first_name, last_name, date_of_birth, email)
 VALUES ('Bhavesh', 'Borekar', '2006-10-27', 'bhavesh@gmail.com'),
      ('Sushil', 'Pandey', '2005-08-22', 'sushil@gmail.com'),
    ('Payal', 'Khade', '2005-02-10', 'payal@gmail.com');
```

- **VERIFYING RESTORATION**

```
SELECT * FROM student;
```

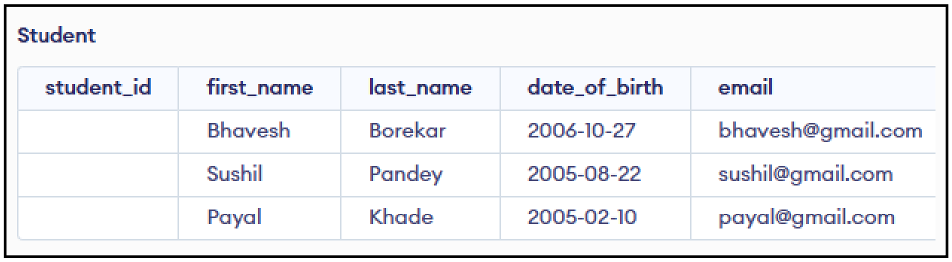
- **BACKUP AND RESTORE IN POSTRESQL**

- **CREATE THE TABLE STUDENT:-**

```
CREATE TABLE student (
   student_id INT AUTO_INCREMENT PRIMARY KEY,
   first_name VARCHAR(100) NOT NULL,
   last_name VARCHAR(100) NOT NULL,
   date_of_birth DATE,
   email VARCHAR(100) UNIQUE
);
```

- **INSERT DATA INTO TABLE STUDENT:-**

```
INSERT INTO student (first_name, last_name, date_of_birth, email)
VALUES ('Bhavesh', 'Borekar', '2006-10-27', 'bhavesh@gmail.com'),
      ('Sushil', 'Pandey', '2005-08-22', 'sushil@gmail.com'),
      ('Payal', 'Khade', '2005-02-10', 'payal@gmail.com');
```



Student

student_id	first_name	last_name	date_of_birth	email
	Bhavesh	Borekar	2006-10-27	bhavesh@gmail.com
	Sushil	Pandey	2005-08-22	sushil@gmail.com
	Payal	Khade	2005-02-10	payal@gmail.com

- **Backup and Recovery Script**

1) Backup SQL Script (MySQL/PostgreSQL Simulation)

```
SELECT * FROM student;
```

2) **Restore SQL Script**

```
INSERT INTO student (first_name, last_name, date_of_birth, email)
VALUES ('Bhavesh', 'Borekar', '2006-10-27', 'bhavesh@gmail.com'),
    ('Sushil', 'Pandey', '2005-08-22', 'sushil@gmail.com'),
    ('Payal', 'Khade', '2005-02-10', 'payal@gmail.com');
```

- **Backup Process**

  Step 1: Create the student table and insert sample data.

  Step 2: Use a SELECT * FROM student query to simulate a backup by copying the results.

  Step 3: Save the query result manually as a backup for restoration.

Backup Command:

```
mysql -u root -p student > task4.sql
```

- -u username: Specifies the MySQL username.
- -p: Prompts you for the password of the MySQL user.
- database_name: The name of the database you want to back up.
- backup_file.sql: The name of the SQL file where the database will be backed up.

- **Restore Process**

  Step 1: Use the INSERT INTO student command to restore the data from the backup.

  Step 2: Verify that the restored data matches the original data by running the SELECT * FROM student query.

Restore Command:

```
mysql -u root -p student< task4.sql
```

- -u username: Specifies the MySQL username (e.g., root).
- -p: Prompts you for the password.
- database_name: The name of the database you want to restore.
- backup_file.sql: The .sql backup file you want to restore.

2. Backup and Restore in PostgreSQL

Backing Up a PostgreSQL Database

In PostgreSQL, the pg_dump command is used to back up a database.

Backup Command:

```
pg_dump -U username -W -F c student > task4.dump
```

- -U username: Specifies the PostgreSQL username (e.g., postgres).
- -W: Prompts for the PostgreSQL password.
- -F c: Specifies the format of the backup (custom format .dump).
- database_name: The name of the database you want to back up.
- backup_file.dump: The backup file where the database will be saved.

Command launch

```
pg_dump -U postgres -W -F c student> task.dump
```

- **Restoring a PostgreSQL Database**

To restore a PostgreSQL database from a backup, you can use the pg_restore command.

Restore Command:

- ***Command launch***

  ```
  pg_restore -U postgres -d student -W task.dump
  ```

- -U username: Specifies the PostgreSQL username.
- -d database_name: The name of the database to restore into.
- -W: Prompts for the PostgreSQL password.
- backup_file.dump: The .dump backup file you want to restore.

Backing Up a SQL Server Database

In SQL Server, you can use the BACKUP command to create a backup.

Backup Command (T-SQL):

```
BACKUP DATABASE database2
TO DISK = 'C:\user\task4.bak';
```

- database2: The name of the database you want to back up.
- 'C:\user\task4.bak':The location and name of the backup file.

Restoring a SQL Server Database

To restore a database, use the RESTORE command.

Restore Command (T-SQL):

```
RESTORE DATABASE database2
FROM DISK = 'C:\user\task4.bak';
```

- database2: The name of the database you want to restore into.
- 'C:\user\task4.bak': The backup file from which you want to restore.