Task 1

Challenges of Managing Multimedia Data in a PostgreSQL Database

Storing digital comics directly in a PostgreSQL database introduces several unique challenges. The three most common issues I have chosen are as follows:

1. ## Increased Storage Requirement and Database Size

   Multimedia files are much larger than ordinary text or numerical data. Thus, storing these files in PostgreSQL would cause the database to grow rapidly, leading to an increase in disk space usage. This increase would negatively impact performance as well as slow down backups and would require more powerful hardware to manage efficiently.

2. ## Backup, Recovery, and Maintenance Complexity

   Including large multimedia files in the database makes backups and recovery processes more complex and time-consuming. Backups become larger and take longer to complete. Restoring the database after a failure is slower which can increase downtime. Maintaining the integrity of both standard and multimedia data during migrations or upgrades would also become more challenging.

3. ## Performance and Query Efficiency

   When multimedia data is stored inside the database, retrieving or updating these large files can significantly reduce database performance. Even simple queries may become slower if the system frequently handles large binary data in addition to normal records.