Software Design and Engineering

Lab Document

High Level Purpose Statement:	The purpose of this lab is to install and configure PostgreSQL on a Windows machine, test its functionality by creating and querying a sample database, and document the steps to help others follow the same process.
Experimental Design:	Download and install PostgreSQL. Verify installation using psql. Create a test database and table. Insert sample data and query the table. Troubleshoot common issues. Upload the project and documentation to GitHub.
Resources Available:	PostgreSQL official website: https://www.postgresql.org/ Windows Command Prompt (cmd) pgAdmin GUI GitHub for project documentation
Time Estimate:	Installation: 10-15 minutes Configuration and testing: 30 minutes Documentation and upload: 15-20 minutes

Experiment Notes:	Downloaded PostgreSQL installer and followed the setup wizard.
	 Set up the postgres superuser and selected default port 5432.
	 Verified the installation by running:
	     SELECT version();
	 Created a test database named test_db:
	     CREATE DATABASE test_db;
	     \c test_db;
	 Created a sample table and inserted data:
	     CREATE TABLE test_table (
	       id SERIAL PRIMARY KEY,
	       name VARCHAR(50) NOT NULL
	     );
	     INSERT INTO test_table (name) VALUES ('Alice'), ('Bob');
	 Queried the table to confirm data insertion:
	     SELECT * FROM test_table;
	 Encountered an issue with more not recognized in psql, resolved by disabling pagination using:
	     \pset pager off
	 Pushed the project and documentation to GitHub.

Results:	PostgreSQL was successfully installed and tested. Created and interacted with a database using psql. Successfully uploaded the project and lab document to GitHub.
Consequences for the Future:	This setup will help in future database-related projects. Understanding SQL queries and troubleshooting PostgreSQL will be useful in real-world applications. The documented process can serve as a reference for others learning PostgreSQL.