Task 4. Prepare answers to the following questions

1. ***How can one restrict access to certain columns of a database table?***

In pgSQL, access to specific columns can be restricted by using column-level privileges.

Example:

GRANT SELECT (first\_name, last\_name) ON customer TO rentaluser;

This allows rentaluser to see only the first\_name and last\_name columns in the customer table, but not the others.

1. ***What is the difference between user identification and user authentication?***

Identification is the process where a user states who they are, usually by providing a username.

Authentication is the process where the user proves their identity, typically using a password, token, certificate, or other credentials.

1. ***What are the recommended authentication protocols for PostgreSQL?***

SCRAM-SHA-256 – the most secure password-based method

SSL Certificates – uses X.509 client certificates for secure authentication

LDAP – integrates with Active Directory or other directory services

OAuth2 / OpenID – for modern web applications

1. ***What is proxy authentication in PostgreSQL and what is it for? Why does it make the previously discussed role-based access control easier to implement?***

Proxy authentication allows one user to act on behalf of another user, without requiring that user’s password. It is useful when an application connects to the database with a single account but needs to apply permissions for different end users. It enables session-level switching of users/roles depending on who is logged in. The application can switch to the appropriate role using:

SET ROLE client\_tamara\_jovicic;

This allows PostgreSQL to automatically enforce access policies (like row-level security), without complex logic in the application code.