Q4.a. The circumstances for implementing the privileges are as follows:

* The privileges that a user has to work with a database control the operations that the user can perform on the database.
* Privileges for working with the data in the database are typically given to all users of the database include the end user.
* Privileges for modifying the structure of the database given to database administrator and programmers.
* The circumstance when a user allows to create and work with database objects such as tables, views, and stored procedures. The privilege that are available for an object depend on the type of object.
* Administrative privileges allow the user to create users, grant privileges, and manage operation on the server. The are not specific to a particular database.

b. Roles

* A role is the collection privileges that you can assign to one or more users.
* You use the CREATE ROLE statement to create one or more rules. For this to work, the user must have the CREATE USER OR CREATE ROLE privilege.
* If you code the IF NOT EXISTS clause on the CREATE ROLE statement, a warning is generated instead of an error if the rule already exists.
* You use the GRANT statement to grant privileges to role. The syntax of this statement is the same as for granting privileges to users except that you name one or more rules.
* You also use the GRANT statement to assign users to roles. When you assign a user to a role the user is granted all the privileges of that role. if you go to the WITH ADMIN OPTION clause, the user can also grant the rules to others.
* You use the SHOW GRANT statement to display the privileges associated with the role. The syntax of this statement is the same as what displaying the privileges for a user except that you name a role.