1. John is an employee working in HR for WWI. Which database schemas should John have access to in order to do his job? Write an SQL statement that gives John the access he needs.

According to the database catalog, “The WideWorldImporters database contains all the transaction information and daily data for sales and purchases, as well as sensor data for vehicles and cold rooms.” Based on this premise, I would say that John does not actually need access to any of the database schemas. Since he is working in HR and not any of the departments that perform or interact with transactions, I do not see a reason to give John access to the database other than to potentially audit other users’ interactions with the system. If it is deemed necessary by a higher level of management, I would give him a basic level of access, such as the Data and Secure-access schemas to have low level use of the database. This allows for a minimal security risk as well. This would be done using the following SQL statement:

GRANT SELECT ON SCHEMA :: Application, Purchasing, Sales, Warehouse, Website, Reports, PowerBI TO JOHN;

1. Olive is a warehouse employee for WWI. Which database schemas should Olive have access to in order to do her job? Write an SQL statement that gives Olive the access she needs.

Olive will need access to the Application schema, Warehouse schema, Website schema, Reports schema, and PowerBI schema, but not the procedures for all of the associated schemas. These can be granted using the following SQL statement:

GRANT SELECT, INSERT, UPDATE ON SCHEMA :: Application, Warehouse, Reports, PowerBI TO OLIVE;

GRANT SELECT, INSERT, UPDATE, EXECUTE ON SCHEMA :: Website TO OLIVE;

1. Rory is a salesperson for WWI. Which database schemas should Rory have access to in order to do her job? Write an SQL statement that gives Rory the access she needs.

Rory will need access to the Application schema, Sales schema, Website schema, Reports schema, and PowerBI schema but not the procedures for all of the associated schemas. This can be granted using the following SQL statement:

GRANT SELECT, INSERT, UPDATE ON SCHEMA :: Application, Sales, Reports, PowerBI TO RORY;

GRANT SELECT, INSERT, UPDATE, EXECUTE ON SCHEMA :: Website TO RORY;

1. For the three people above, are there any items (tables, views, or schemas) they should not have access to? Write an SQL statement that removes their access to those items.

Yes, none of these users needs access to the ChangePassword function from the Website procedures. To remove this, you would use the following SQL statement:

REVOKE EXECUTE ON OBJECT::Website.ChangePassword FROM OLIVE, RORY;

John does not need this access removed since he only has SELECT access granted.

1. Write the steps for a transaction that orders a new product for the warehouse. You do not need to write the entire SQL statement for each step.

Begin transaction;

Insert into StockItemTransaction VALUES (necessary product information for transaction);

Commit;

1. Write the steps for a transaction that processes a customer order. You do not need to write the entire SQL statement for each step.

Begin transaction;

Select (rows for customer order information that also apply to CustomerTransaction table) from Orders, OrderLines JOIN OrderLines ON “Common column from Orders” WHERE “primary key = value for new order”;

Insert into CustomerTransaction Values (Necessary customer order information);

Commit;