**Assignment instructions**

**Task 1: Trigger Basics**

1. Write a brief explanation of what triggers are and their purpose in a database.
2. Identify the different types of triggers supported in SQL Server.
3. Create a trigger that automatically inserts a new record into the "AuditLog" table whenever an update is made to the "CreditCard" table.

**Task 2: Modifying Data with Triggers**

1. Create a trigger that updates the "ModifiedDate" column of the "Product" table whenever a new record is inserted into that table.
2. Create a trigger that prevents the deletion of records from the "CreditCard" table and instead sets a flag column "IsDeleted" to mark them as "deleted."

**Task 3: Data Validation with Triggers**

1. Create a trigger that prevents the insertion of a new order if the Tax rate in the SalesTaxRate table is exceeded its limit of 25.
2. Create a trigger that ensures the "Bonus" column in the "SalesPerson" table is always within the range of 0 to 5000.

**Task 4: Audit Trails with Triggers**

1. Create a trigger that logs the details of any update made to the "ProductDescription" table into the "ProductDescriptionAudit" table.
2. Create a trigger that tracks the number of times the stored procedure "uspGetEmployeeManagers" is executed and stores the count in the "ProcedureExecutionCount" table.

**Note:** You will need to add additional tables and columns.

#### Questions for this assignment

Write a brief explanation of what triggers are and their purpose in a database.

Insert your answer here:

Identify the different types of triggers supported in SQL Server.

Insert your answer here:

Create a trigger that updates the "ModifiedDate" column of the "Product" table whenever a new record is inserted into that table.

Insert your answer here:

Create a trigger that prevents the insertion of a new order if the Tax rate in the SalesTaxRate table is exceeded its limit of 25.

Insert your answer here:

**How did you do?**

Compare the instructor's example to your own

**Instructor example**

A person with his arms crossed

Description automatically generated

[Trevoir Williams](https://www.udemy.com/user/trevoirwilliams/)

Write a brief explanation of what triggers are and their purpose in a database.

Triggers are database objects that are associated with a table and automatically executed when a specified event (INSERT, UPDATE, DELETE) occurs on that table. Their purpose is to enforce data integrity, perform actions based on data modifications, and automate tasks within the database.

Identify the different types of triggers supported in SQL Server.

The types of triggers supported in SQL Server are:

* AFTER triggers: Executed after the event.
* INSTEAD OF triggers: Replaces the original event.

Create a trigger that updates the "ModifiedDate" column of the "Product" table whenever a new record is inserted into that table.

CREATE TRIGGER AuditLogTrigger

ON Sales.Product

AFTER UPDATE

AS

BEGIN

INSERT INTO AuditLog (TableName, Action, ModifiedDate)

VALUES ('SalesOrderHeader', 'UPDATE', GETDATE());

END;

Create a trigger that prevents the insertion of a new order if the Tax rate in the SalesTaxRate table is exceeded its limit of 25.

CREATE TRIGGER CheckTaxRateLimitTrigger

ON Sales.SalesTaxRate

FOR INSERT

AS

BEGIN

IF EXISTS (

SELECT \*

FROM inserted i

WHERE i.TaxRate > 25

)

BEGIN

RAISERROR ('Sales Tax Rate limit exceeded', 16, 1);

ROLLBACK;

END;

END;