-- Stored Procedure Templates for Slowly Changing Dimensions (SCD)

-- These are simplified templates. Adjust table/column names for your schema.

-- SCD Type 0: Retain original data (no changes)

CREATE PROCEDURE SCD\_Type0\_Update

AS

BEGIN

PRINT 'SCD Type 0 does not update any records.'

END

GO

-- SCD Type 1: Overwrite existing data

CREATE PROCEDURE SCD\_Type1\_Update

@BusinessKey INT,

@NewValue VARCHAR(100)

AS

BEGIN

UPDATE DimTable

SET Attribute = @NewValue

WHERE BusinessKey = @BusinessKey;

END

GO

-- SCD Type 2: Add new record with versioning and effective dates

CREATE PROCEDURE SCD\_Type2\_Update

@BusinessKey INT,

@NewValue VARCHAR(100)

AS

BEGIN

UPDATE DimTable

SET EndDate = GETDATE(), IsCurrent = 0

WHERE BusinessKey = @BusinessKey AND IsCurrent = 1;

INSERT INTO DimTable (BusinessKey, Attribute, StartDate, EndDate, IsCurrent)

VALUES (@BusinessKey, @NewValue, GETDATE(), NULL, 1);

END

GO

-- SCD Type 3: Store previous value in an alternate column

CREATE PROCEDURE SCD\_Type3\_Update

@BusinessKey INT,

@NewValue VARCHAR(100)

AS

BEGIN

UPDATE DimTable

SET PreviousAttribute = Attribute, Attribute = @NewValue

WHERE BusinessKey = @BusinessKey;

END

GO

-- SCD Type 4: Store changes in a separate history table

CREATE PROCEDURE SCD\_Type4\_Update

@BusinessKey INT,

@NewValue VARCHAR(100)

AS

BEGIN

INSERT INTO DimTable\_History (BusinessKey, Attribute, ChangeDate)

SELECT BusinessKey, Attribute, GETDATE()

FROM DimTable

WHERE BusinessKey = @BusinessKey;

UPDATE DimTable

SET Attribute = @NewValue

WHERE BusinessKey = @BusinessKey;

END

GO

-- SCD Type 6: Hybrid of Type 1, 2, and 3

CREATE PROCEDURE SCD\_Type6\_Update

@BusinessKey INT,

@NewValue VARCHAR(100)

AS

BEGIN

-- Type 2: Set current record to not current

UPDATE DimTable

SET EndDate = GETDATE(), IsCurrent = 0

WHERE BusinessKey = @BusinessKey AND IsCurrent = 1;

-- Insert new record with current and previous value (Type 3)

INSERT INTO DimTable (BusinessKey, Attribute, PreviousAttribute, StartDate, EndDate, IsCurrent)

SELECT @BusinessKey, @NewValue, Attribute, GETDATE(), NULL, 1

FROM DimTable

WHERE BusinessKey = @BusinessKey AND IsCurrent = 0

ORDER BY EndDate DESC;

END

GO