-- Stored Procedure: Handle Subject Change Requests

-- Implements versioned history using Is\_Valid flag

CREATE PROCEDURE ProcessSubjectChangeRequests

AS

BEGIN

-- Declare variables

DECLARE @StudentId VARCHAR(20), @RequestedSubjectId VARCHAR(20);

-- Cursor to iterate through requests

DECLARE request\_cursor CURSOR FOR

SELECT StudentId, SubjectId FROM SubjectRequest;

OPEN request\_cursor;

FETCH NEXT FROM request\_cursor INTO @StudentId, @RequestedSubjectId;

WHILE @@FETCH\_STATUS = 0

BEGIN

IF EXISTS (SELECT 1 FROM SubjectAllotments WHERE StudentId = @StudentId)

BEGIN

DECLARE @CurrentSubjectId VARCHAR(20);

SELECT @CurrentSubjectId = SubjectId

FROM SubjectAllotments

WHERE StudentId = @StudentId AND Is\_Valid = 1;

IF @CurrentSubjectId IS NULL OR @CurrentSubjectId <> @RequestedSubjectId

BEGIN

-- Invalidate existing record(s)

UPDATE SubjectAllotments

SET Is\_Valid = 0

WHERE StudentId = @StudentId AND Is\_Valid = 1;

-- Insert new valid record

INSERT INTO SubjectAllotments (StudentId, SubjectId, Is\_Valid)

VALUES (@StudentId, @RequestedSubjectId, 1);

END

END

ELSE

BEGIN

-- New student, insert directly

INSERT INTO SubjectAllotments (StudentId, SubjectId, Is\_Valid)

VALUES (@StudentId, @RequestedSubjectId, 1);

END

FETCH NEXT FROM request\_cursor INTO @StudentId, @RequestedSubjectId;

END

CLOSE request\_cursor;

DEALLOCATE request\_cursor;

END

GO