Celebal Week-4 Assignment

```sql
CREATE PROCEDURE AllocateSubjects

AS

BEGIN

  DECLARE @RemainingSeats TABLE (

    SubjectId VARCHAR(10),

    SeatsLeft INT

  );

  INSERT INTO @RemainingSeats (SubjectId, SeatsLeft)

  SELECT SubjectId, RemainingSeats

  FROM SubjectDetails;

  DECLARE student_cursor CURSOR FOR

  SELECT StudentId

  FROM StudentDetails

  ORDER BY GPA DESC;

  DECLARE @StudentId VARCHAR(10);

  DECLARE @SubjectId VARCHAR(10);

  DECLARE @Seats INT;

  OPEN student_cursor;

  FETCH NEXT FROM student_cursor INTO @StudentId;

  WHILE @@FETCH_STATUS = 0

  BEGIN

    DECLARE @Allotted BIT = 0;

    DECLARE pref_cursor CURSOR FOR

    SELECT SubjectId

    FROM StudentPreference

    WHERE StudentId = @StudentId

    ORDER BY Preference ASC;

    OPEN pref_cursor;
```

```sql
        FETCH NEXT FROM pref_cursor INTO @SubjectId;

        WHILE @@FETCH_STATUS = 0 AND @Allotted = 0

        BEGIN

            SELECT @Seats = SeatsLeft

            FROM @RemainingSeats

            WHERE SubjectId = @SubjectId;

            IF @Seats > 0

            BEGIN

                INSERT INTO Allotments (SubjectId, StudentId)

                VALUES (@SubjectId, @StudentId);

                UPDATE @RemainingSeats

                SET SeatsLeft = SeatsLeft - 1

                WHERE SubjectId = @SubjectId;

                SET @Allotted = 1;

            END

            FETCH NEXT FROM pref_cursor INTO @SubjectId;

        END

        CLOSE pref_cursor;

        DEALLOCATE pref_cursor;

        IF @Allotted = 0

        BEGIN

            INSERT INTO UnallotedStudents (StudentId)

            VALUES (@StudentId);

        END

        FETCH NEXT FROM student_cursor INTO @StudentId;

    END

CLOSE student_cursor;

DEALLOCATE student_cursor;
```

END;