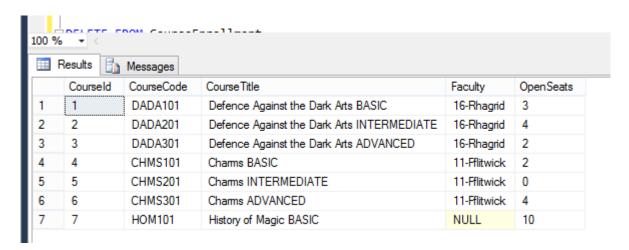
## Lab 15: Triggers

1. when inserting/deleting/updating a new record, update the Courses table's OpenSeats for the course into which the student is being enrolled.

```
if(OBJECT ID ('UpdateOpenSeats4','tr')is not null)
   drop trigger UpdateOpenSeats4
CREATE TRIGGER UpdateOpenSeats4
      ON CourseEnrollment FOR UPDATE, DELETE, INSERT
       AS
             DECLARE @oldCourseId AS INT
             DECLARE @newCourseId AS INT
             SELECT @oldCourseId = CourseId FROM deleted
             SELECT @newCourseId = CourseId FROM inserted
              IF EXISTS(SELECT * FROM DELETED)
                     AND EXISTS(SELECT * FROM INSERTED)
                     BEGIN
                           UPDATE Courses
                                   set Courses.OpenSeats = Courses.OpenSeats + 1
                                  where Courses.CourseId = @oldCourseId
                           UPDATE Courses
                                  set Courses.OpenSeats = Courses.OpenSeats - 1
                                  where Courses.CourseId = @newCourseId
                                          AND Courses.OpenSeats >= 1
                     END
             ELSE IF EXISTS(SELECT * FROM DELETED)
                    BEGIN
                           UPDATE Courses
                            set Courses.OpenSeats = Courses.OpenSeats + 1
                           where Courses.CourseId = @oldCourseId
                     END
             ELSE
                     BEGIN
                           UPDATE Courses
                            set Courses.OpenSeats = Courses.OpenSeats - 1
                           where Courses.CourseId = @newCourseId
                           AND Courses.OpenSeats >= 1
                     END
go
```

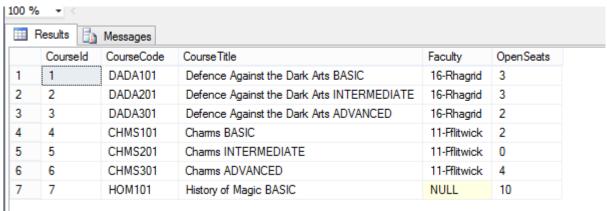
2. Examine the code by instances.

The original Courses table looks like:



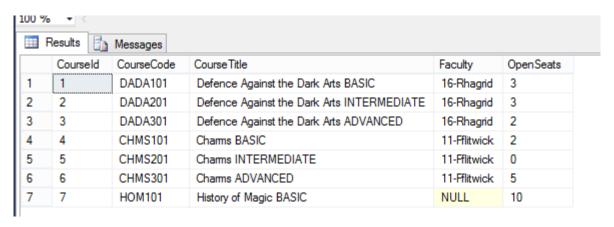
## Now '03-HJGranger' enrolled CourseId = 2:

#### The Courses table looks like:



## Now, implement (03-HJGranger dropped the CourseId = 6):

```
DELETE FROM CourseEnrollment
WHERE StudentId = '03-HJGranger'
AND CourseId = 6
```



# Now, implement (01-HJPotter switched to CouseId = 2 from CourseId = 3):

UPDATE CourseEnrollment
 SET CourseId = 2
 WHERE StudentId = '01-HJPotter'
 AND CourseId = 3

	Courseld	CourseCode	CourseTitle	Faculty	OpenSeats
1	1	DADA101	Defence Against the Dark Arts BASIC	16-Rhagrid	3
2	2	DADA201	Defence Against the Dark Arts INTERMEDIATE	16-Rhagrid	2
3	3	DADA301	Defence Against the Dark Arts ADVANCED	16-Rhagrid	3
4	4	CHMS101	Chams BASIC	11-Fflitwick	2
5	5	CHMS201	Chams INTERMEDIATE	11-Fflitwick	0
6	6	CHMS301	Chams ADVANCED	11-Fflitwick	5
7	7	HOM101	History of Magic BASIC	NULL	10