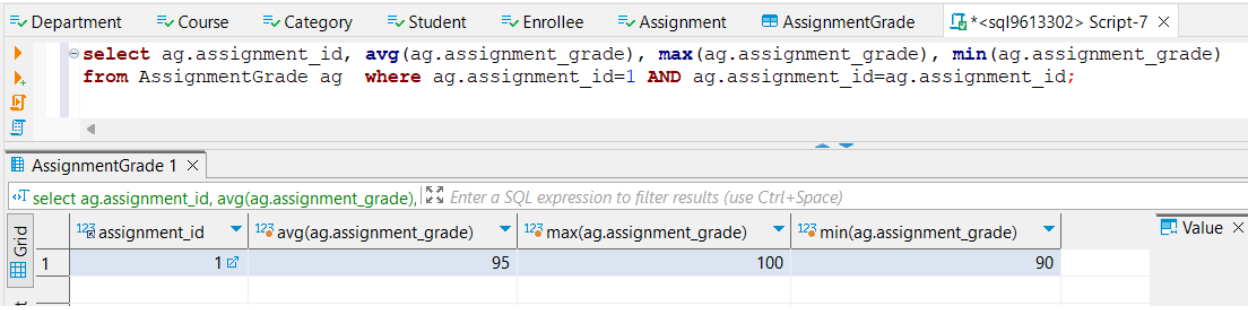
TASKS 4-11

4. Average,max,min score

CODE:

```
select ag.assignment_id, avg(ag.assignment_grade), max(ag.assignment_grade), min(ag.assignment_grade)
from AssignmentGrade ag  where ag.assignment_id=1 AND ag.assignment_id=ag.assignment_id;
```

QUERY RESULT



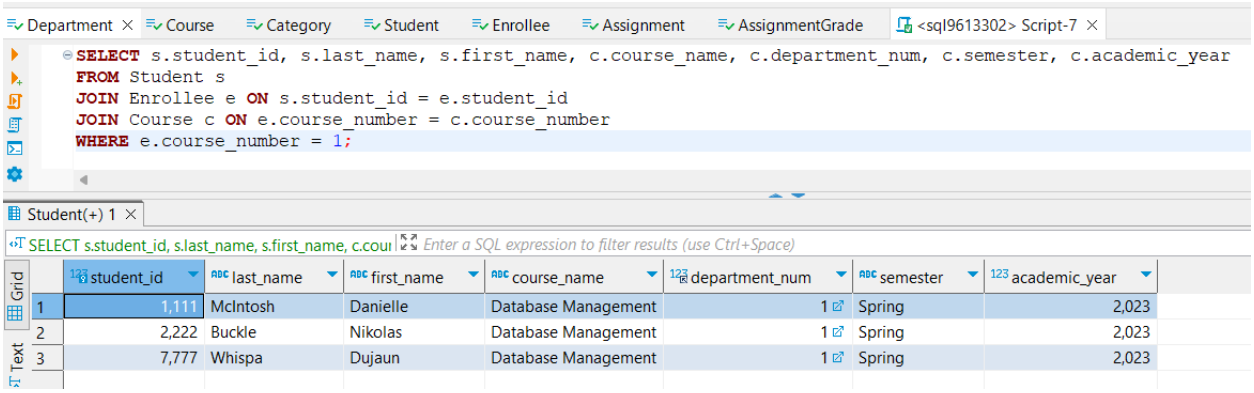
assignment_id	expected assignment_id	avg(assignment_grade)	EXPECTED avg(assignment_grade)	max(assignment_grade)	EXPECTED max(assignment_grade)	min(
1	1	95	95	100	100	90

5. Display Class Students

CODE:

```
SELECT s.student_id, s.last_name, s.first_name, c.course_name, c.department_num, c.semester, c.academic_year
FROM Student s
JOIN Enrollee e ON s.student_id = e.student_id
JOIN Course c ON e.course_number = c.course_number
WHERE e.course_number = 1;
```

QUERY RESULT



TEST CASE:

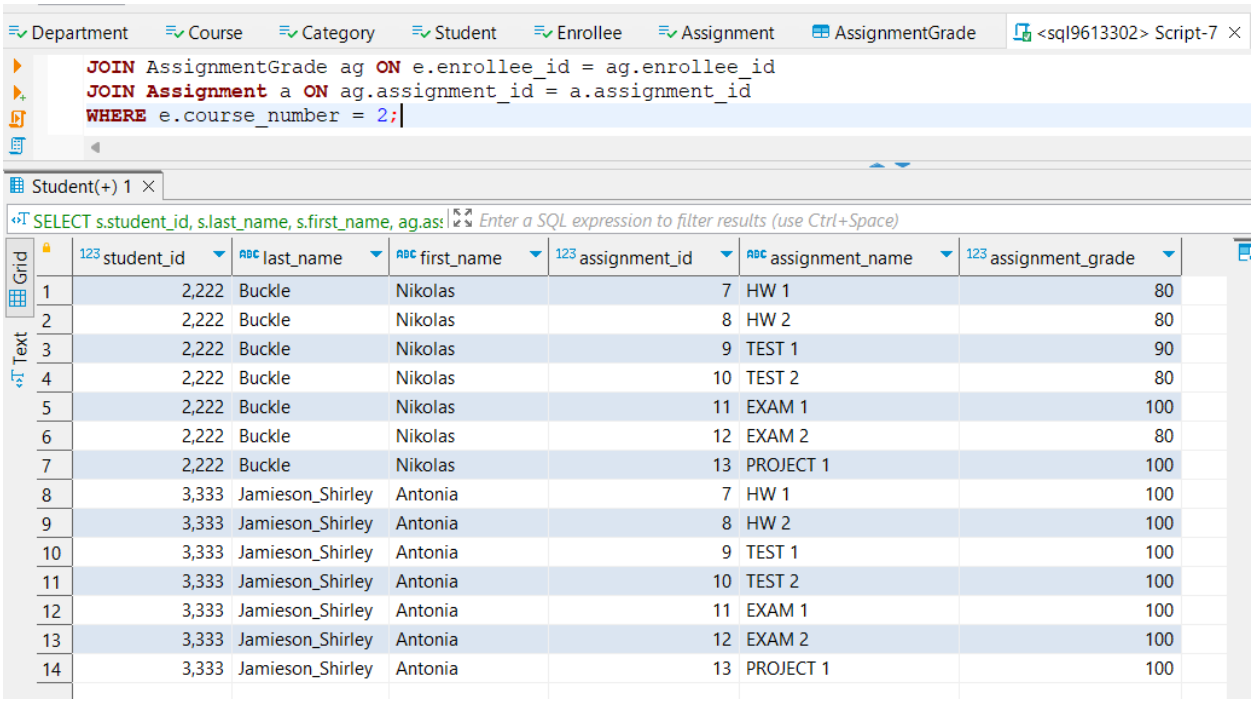
student_id	EXPECTED student_id	last_name	EXPECTED last_name	first_name	EXPECTED first_name	course_name	EXPECTED course_name
1111	1111	Mcintosh	Mcintosh	Danielle	Danielle	Database Management	Database Management
2222	2222	HW2	HW2	10	10	Database Management	Database Management
7777	7777	EXAM 1	EXAM 1	25	25	Database Management	Database Management

6.Display Class Students and Grades

CODE:

```
SELECT s.student_id, s.last_name, s.first_name, ag.assignment_id, a.assignment_name ,ag.assignment_grade
FROM Student s
JOIN Enrollee e ON s.student_id = e.student_id
JOIN AssignmentGrade ag ON e.enrollee_id = ag.enrollee_id
JOIN Assignment a ON ag.assignment_id = a.assignment_id
WHERE e.course_number = 2;
```

QUERY RESULT



TEST CASE:

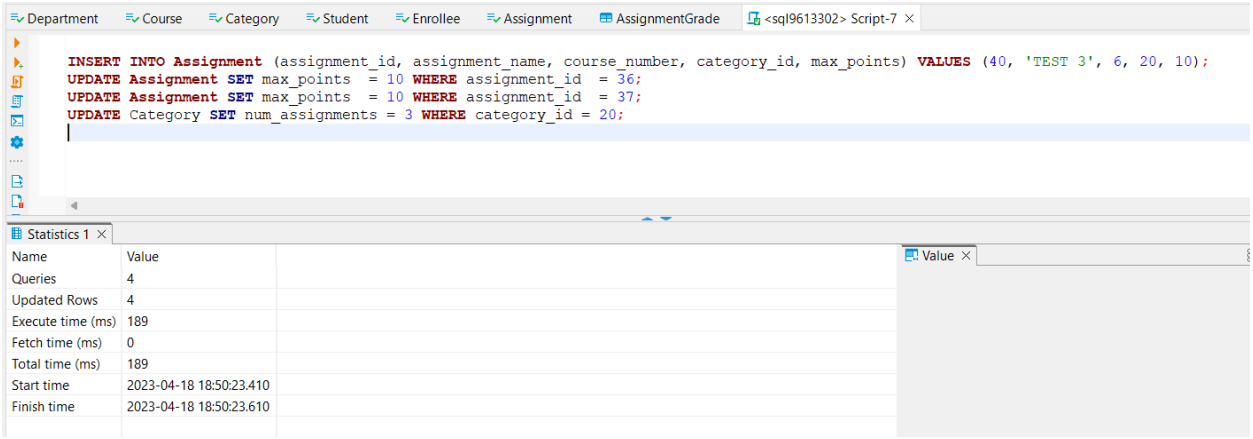
student_id	EXPECTED student_id	last_name	EXPECTED last_name	first_name	assignment_id	EXPECTED assignment_id	assignment
2222	2222	Buckle	Buckle	Nikolas	7,8,9,10,11,12,13	7,8,9,10,11,12,13	HW 1,HW 2 TEST 1, TE EXAM1, EX PROJECT
3333	3333	Jamieson_Shirley	Jamieson_Shirley	Antonia	7,8,9,10,11,12,13	7,8,9,10,11,12,13	HW 1,HW 2 TEST 1, TE EXAM1, EX PROJECT

7. Add new assignment

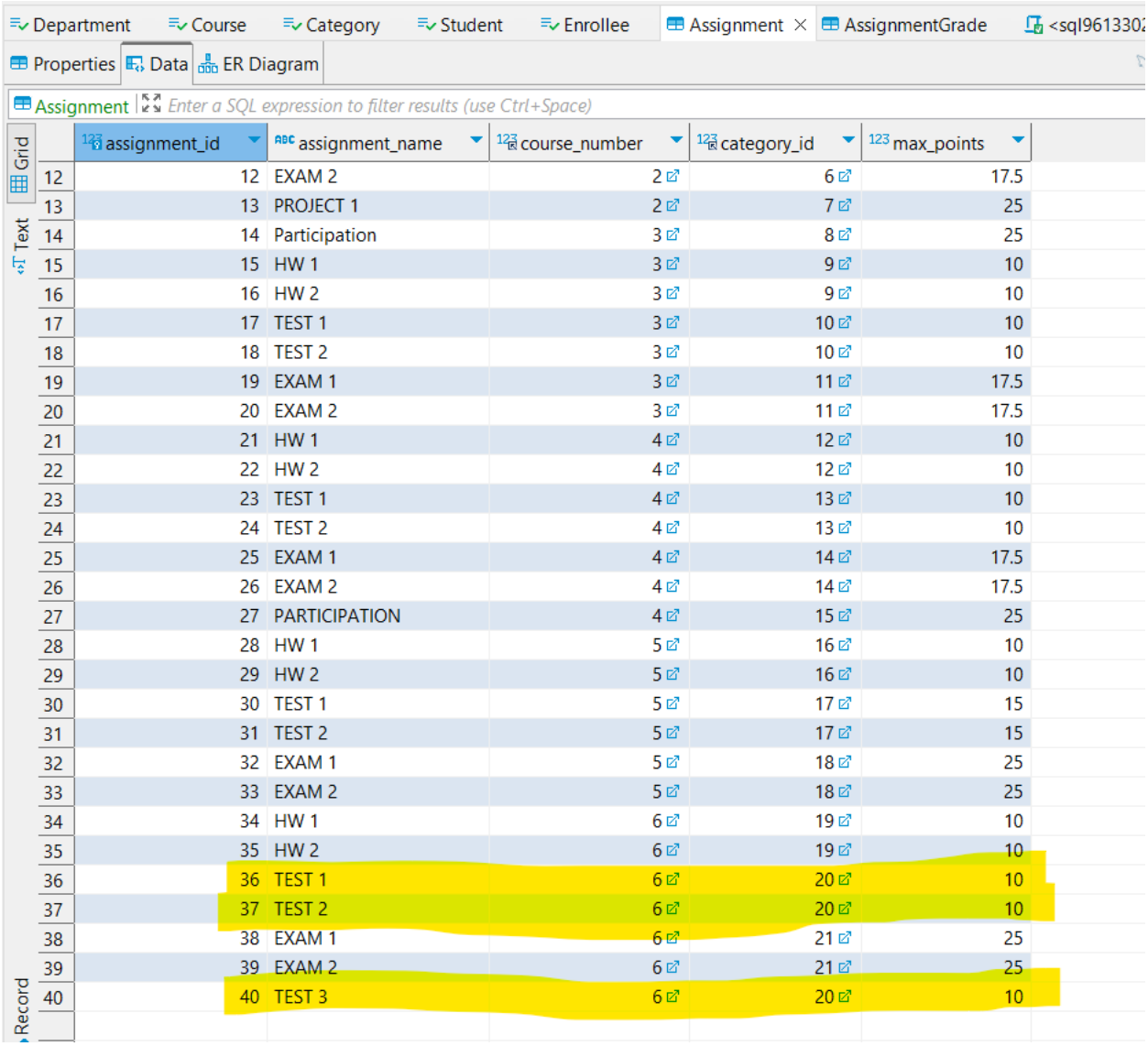
CODE:

```
INSERT INTO Assignment (assignment_id, assignment_name, course_number, category_id, max_points) VALUES (40, 'TEST 3', 6, 20, 10);
UPDATE Assignment SET max_points  = 10 WHERE assignment_id  = 36;
UPDATE Assignment SET max_points  = 10 WHERE assignment_id  = 37;
UPDATE Category SET num_assignments = 3 WHERE category_id = 20;
```

TASK RESULT:



Inserted Test 3

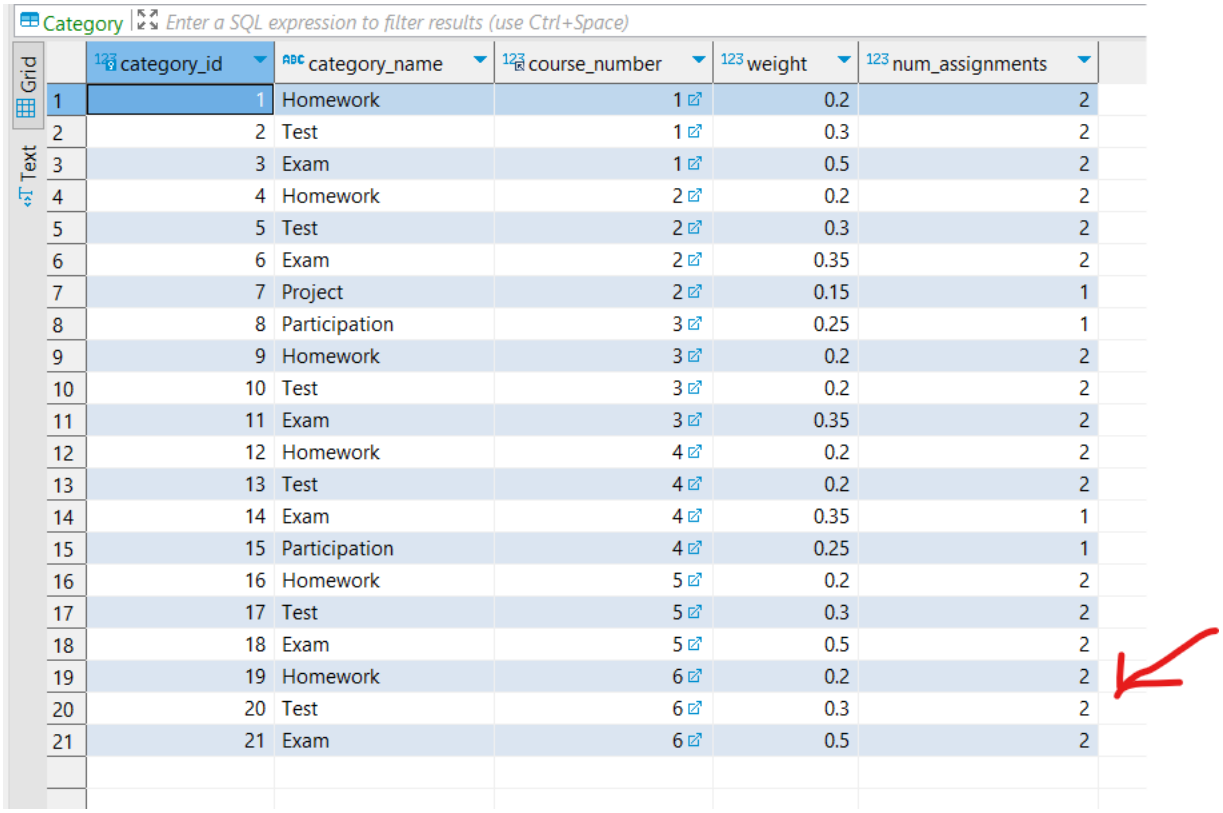


	assignment_id	assignment_name	course_number	category_id	max_points
12	12	EXAM 2	2	6	17.5
13	13	PROJECT 1	2	7	25
14	14	Participation	3	8	25
15	15	HW 1	3	9	10
16	16	HW 2	3	9	10
17	17	TEST 1	3	10	10
18	18	TEST 2	3	10	10
19	19	EXAM 1	3	11	17.5
20	20	EXAM 2	3	11	17.5
21	21	HW 1	4	12	10
22	22	HW 2	4	12	10
23	23	TEST 1	4	13	10
24	24	TEST 2	4	13	10
25	25	EXAM 1	4	14	17.5
26	26	EXAM 2	4	14	17.5
27	27	PARTICIPATION	4	15	25
28	28	HW 1	5	16	10
29	29	HW 2	5	16	10
30	30	TEST 1	5	17	15
31	31	TEST 2	5	17	15
32	32	EXAM 1	5	18	25
33	33	EXAM 2	5	18	25
34	34	HW 1	6	19	10
35	35	HW 2	6	19	10
36	36	TEST 1	6	20	10
37	37	TEST 2	6	20	10
38	38	EXAM 1	6	21	25
39	39	EXAM 2	6	21	25
40	40	TEST 3	6	20	10

TEST CASE:

assignment_id	assignment_name	OLD max_points	NEW max_points	EXPECTED max_points	PASS/FAIL
36	TEST 1	15	10	10	**PASS**
37	TEST 2	15	10	10	**PASS**
40	TEST 3	N/A	10	10	**PASS**

Before Update Test only has 2 assignment

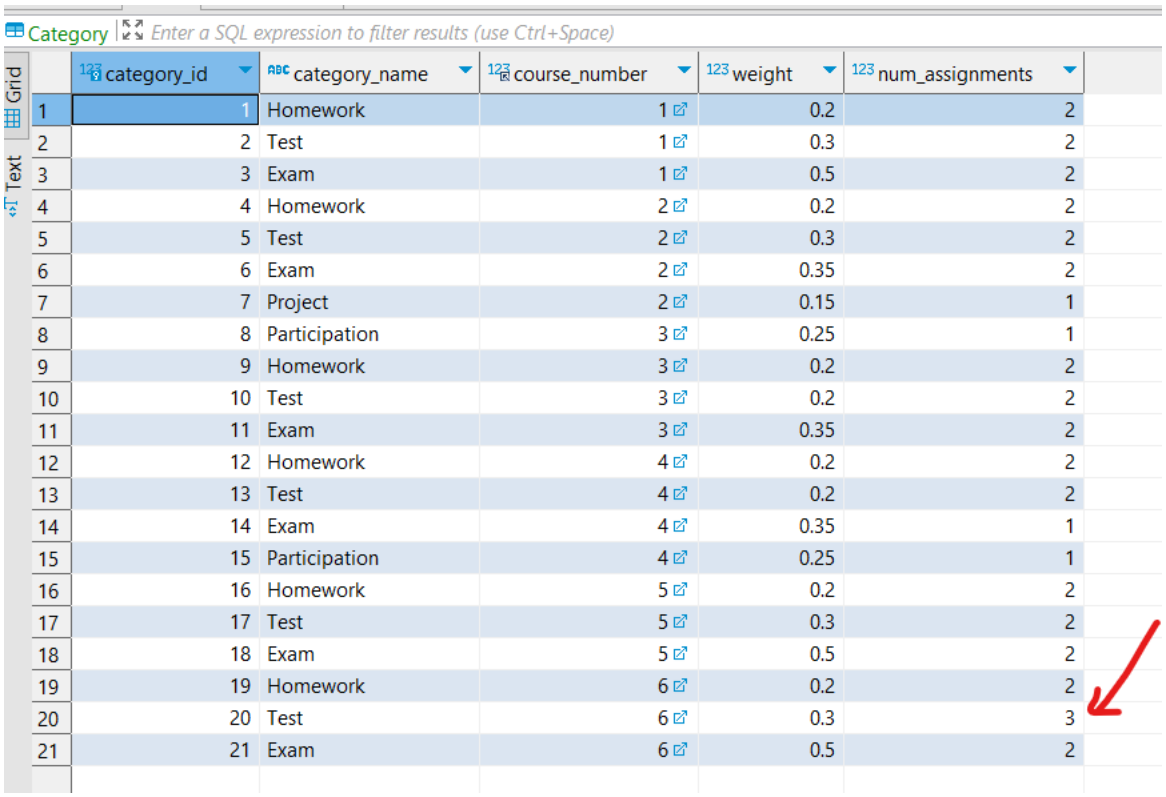


Category | Enter a SQL expression to filter results (use Ctrl+Space)

Grid | Text

	category_id	category_name	course_number	weight	num_assignments
1	1	Homework	1	0.2	2
2	2	Test	1	0.3	2
3	3	Exam	1	0.5	2
4	4	Homework	2	0.2	2
5	5	Test	2	0.3	2
6	6	Exam	2	0.35	2
7	7	Project	2	0.15	1
8	8	Participation	3	0.25	1
9	9	Homework	3	0.2	2
10	10	Test	3	0.2	2
11	11	Exam	3	0.35	2
12	12	Homework	4	0.2	2
13	13	Test	4	0.2	2
14	14	Exam	4	0.35	1
15	15	Participation	4	0.25	1
16	16	Homework	5	0.2	2
17	17	Test	5	0.3	2
18	18	Exam	5	0.5	2
19	19	Homework	6	0.2	2
20	20	Test	6	0.3	2
21	21	Exam	6	0.5	2

AFTER UPDATE TEST HAS 3 ASSIGNMENTS



Category | Enter a SQL expression to filter results (use Ctrl+Space)

Grid | Text

	category_id	category_name	course_number	weight	num_assignments
1	1	Homework	1	0.2	2
2	2	Test	1	0.3	2
3	3	Exam	1	0.5	2
4	4	Homework	2	0.2	2
5	5	Test	2	0.3	2
6	6	Exam	2	0.35	2
7	7	Project	2	0.15	1
8	8	Participation	3	0.25	1
9	9	Homework	3	0.2	2
10	10	Test	3	0.2	2
11	11	Exam	3	0.35	2
12	12	Homework	4	0.2	2
13	13	Test	4	0.2	2
14	14	Exam	4	0.35	1
15	15	Participation	4	0.25	1
16	16	Homework	5	0.2	2
17	17	Test	5	0.3	2
18	18	Exam	5	0.5	2
19	19	Homework	6	0.2	2
20	20	Test	6	0.3	3
21	21	Exam	6	0.5	2

TEST CASE:

category_id	category_name	OLD num_assignments	NEW num_assignments	EXPECTED num_assignments	PASS/FAIL
19	Test	2	3	3	PASS

8. Change percentage

CODE:

```
UPDATE Category  SET weight  = 0.1 WHERE category_id  = 19;
UPDATE Category  SET weight  = 0.6 WHERE category_id  = 21;
UPDATE Assignment SET max_points  = 5 WHERE assignment_id  = 34;
UPDATE Assignment SET max_points  = 5 WHERE assignment_id  = 35;
UPDATE Assignment SET max_points  = 30 WHERE assignment_id  = 38;
UPDATE Assignment SET max_points  = 30 WHERE assignment_id  = 39;
```

TASK RESULT:

Department | Course | Category | Student | Enrollee | Assignment | AssignmentGrade

```
UPDATE Category  SET weight  = 0.1 WHERE category_id  = 19;
UPDATE Category  SET weight  = 0.6 WHERE category_id  = 21;
UPDATE Assignment SET max_points  = 5 WHERE assignment_id  = 34;
UPDATE Assignment SET max_points  = 5 WHERE assignment_id  = 35;
UPDATE Assignment SET max_points  = 30 WHERE assignment_id  = 38;
UPDATE Assignment SET max_points  = 30 WHERE assignment_id  = 39;
```

Statistics 1

Name	Value
Queries	6
Updated Rows	6
Execute time (ms)	113
Fetch time (ms)	0
Total time (ms)	113
Start time	2023-04-18 19:01:31.765
Finish time	2023-04-18 19:01:31.886

CATEGORY BEFORE CHANGES:

Department | Course | Category | Student | Enrollee | Assignment | AssignmentGrade

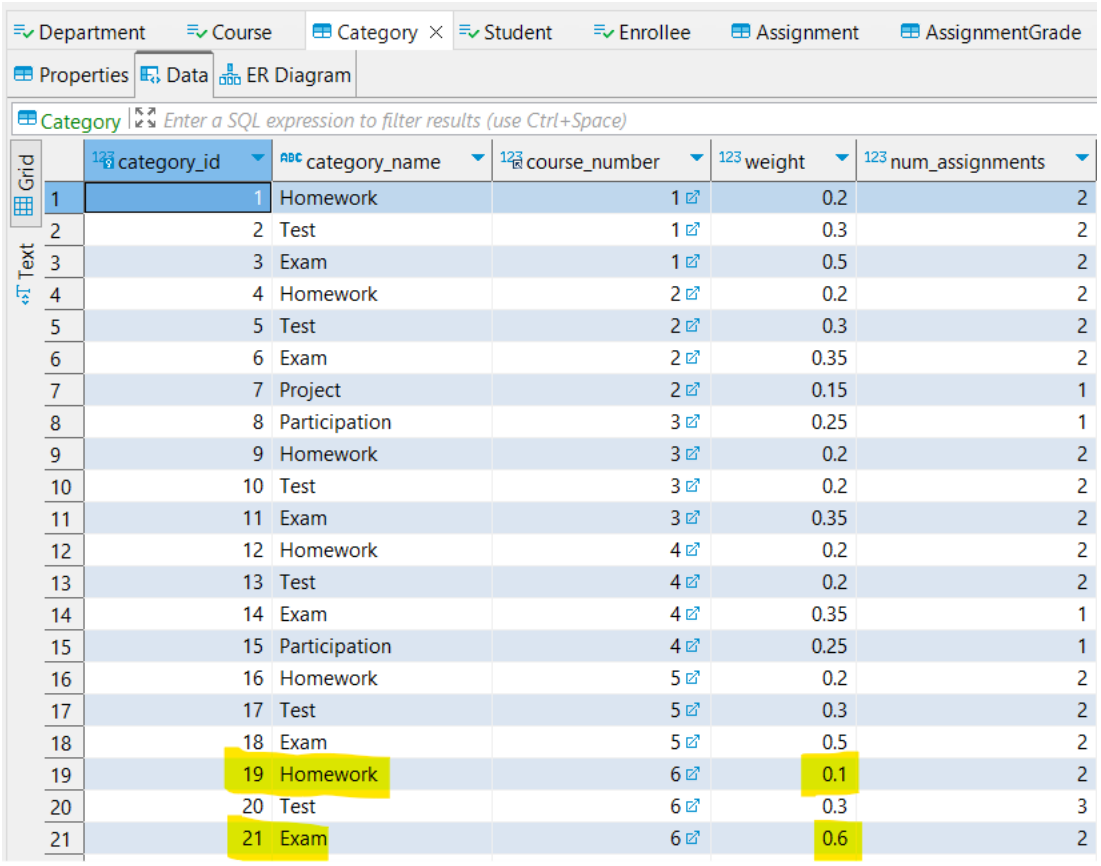
Properties | Data | ER Diagram

Category | Enter a SQL expression to filter results (use Ctrl+Space)

Grid | Text

	category_id	category_name	course_number	weight	num_assignments
1	1	Homework	1	0.2	2
2	2	Test	1	0.3	2
3	3	Exam	1	0.5	2
4	4	Homework	2	0.2	2
5	5	Test	2	0.3	2
6	6	Exam	2	0.35	2
7	7	Project	2	0.15	1
8	8	Participation	3	0.25	1
9	9	Homework	3	0.2	2
10	10	Test	3	0.2	2
11	11	Exam	3	0.35	2
12	12	Homework	4	0.2	2
13	13	Test	4	0.2	2
14	14	Exam	4	0.35	1
15	15	Participation	4	0.25	1
16	16	Homework	5	0.2	2
17	17	Test	5	0.3	2
18	18	Exam	5	0.5	2
19	19	Homework	6	0.2	2
20	20	Test	6	0.3	3
21	21	Exam	6	0.5	2

CATEGORY AFTER CHANGES:

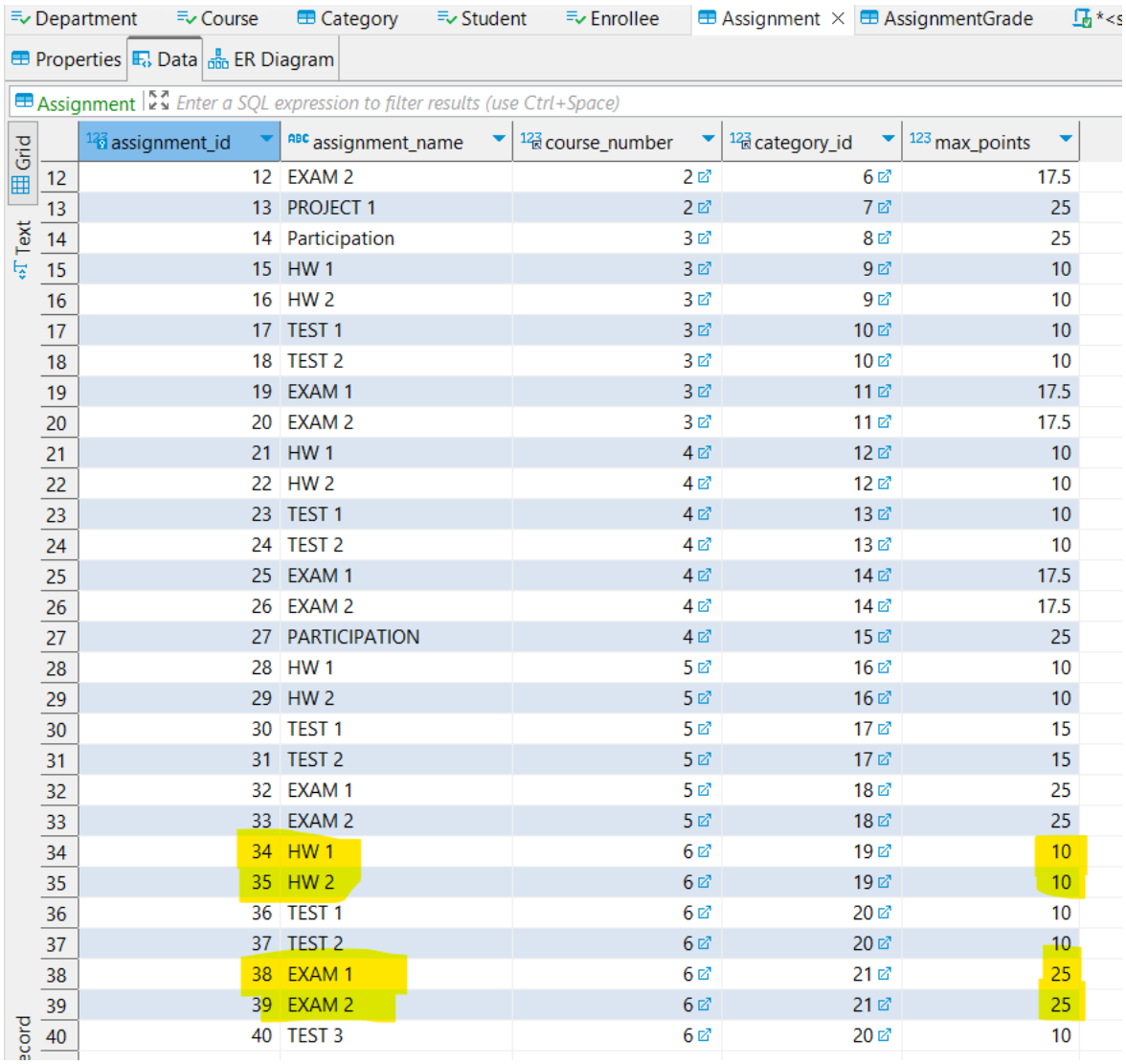


	category_id	category_name	course_number	weight	num_assignments
1	1	Homework	1	0.2	2
2	2	Test	1	0.3	2
3	3	Exam	1	0.5	2
4	4	Homework	2	0.2	2
5	5	Test	2	0.3	2
6	6	Exam	2	0.35	2
7	7	Project	2	0.15	1
8	8	Participation	3	0.25	1
9	9	Homework	3	0.2	2
10	10	Test	3	0.2	2
11	11	Exam	3	0.35	2
12	12	Homework	4	0.2	2
13	13	Test	4	0.2	2
14	14	Exam	4	0.35	1
15	15	Participation	4	0.25	1
16	16	Homework	5	0.2	2
17	17	Test	5	0.3	2
18	18	Exam	5	0.5	2
19	19	Homework	6	0.1	2
20	20	Test	6	0.3	3
21	21	Exam	6	0.6	2

TEST CASE:

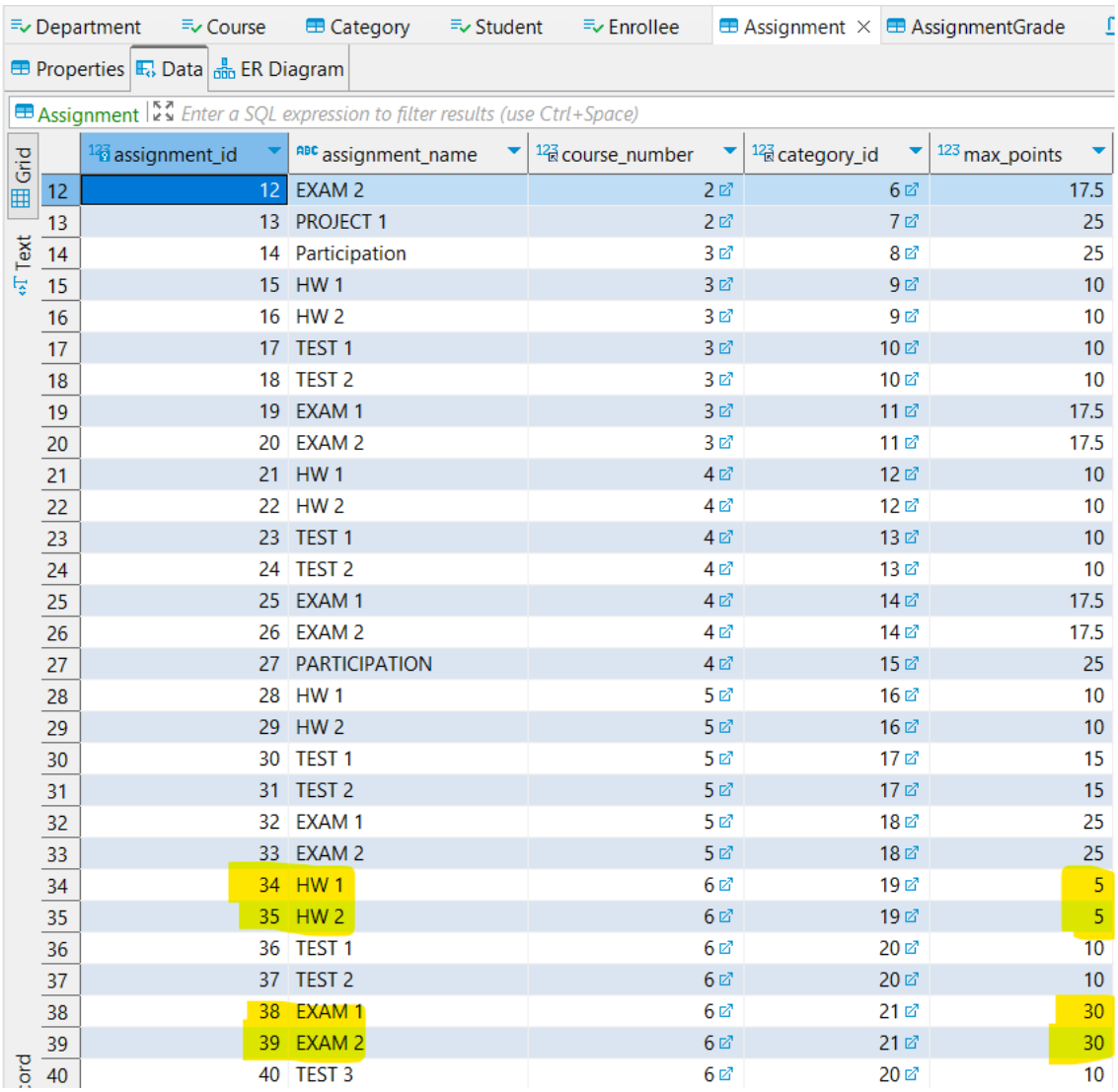
category_id	category_name	OLD weight	NEW weight	EXPECTED weight	PASS/FAIL
19	HW1	0.2	0.1	0.1	PASS
21	Exam	0.5	0.6	0.6	PASS

ASSIGNMENT SHOWS max_points BEFORE UPDATING:



	assignment_id	assignment_name	course_number	category_id	max_points
12	12	EXAM 2	2	6	17.5
13	13	PROJECT 1	2	7	25
14	14	Participation	3	8	25
15	15	HW 1	3	9	10
16	16	HW 2	3	9	10
17	17	TEST 1	3	10	10
18	18	TEST 2	3	10	10
19	19	EXAM 1	3	11	17.5
20	20	EXAM 2	3	11	17.5
21	21	HW 1	4	12	10
22	22	HW 2	4	12	10
23	23	TEST 1	4	13	10
24	24	TEST 2	4	13	10
25	25	EXAM 1	4	14	17.5
26	26	EXAM 2	4	14	17.5
27	27	PARTICIPATION	4	15	25
28	28	HW 1	5	16	10
29	29	HW 2	5	16	10
30	30	TEST 1	5	17	15
31	31	TEST 2	5	17	15
32	32	EXAM 1	5	18	25
33	33	EXAM 2	5	18	25
34	34	HW 1	6	19	10
35	35	HW 2	6	19	10
36	36	TEST 1	6	20	10
37	37	TEST 2	6	20	10
38	38	EXAM 1	6	21	25
39	39	EXAM 2	6	21	25
40	40	TEST 3	6	20	10

AFTER UPDATE max_points CHANGES TO ACCOMODATE NEW PERCENTAGES:



	assignment_id	assignment_name	course_number	category_id	max_points
12	12	EXAM 2	2	6	17.5
13	13	PROJECT 1	2	7	25
14	14	Participation	3	8	25
15	15	HW 1	3	9	10
16	16	HW 2	3	9	10
17	17	TEST 1	3	10	10
18	18	TEST 2	3	10	10
19	19	EXAM 1	3	11	17.5
20	20	EXAM 2	3	11	17.5
21	21	HW 1	4	12	10
22	22	HW 2	4	12	10
23	23	TEST 1	4	13	10
24	24	TEST 2	4	13	10
25	25	EXAM 1	4	14	17.5
26	26	EXAM 2	4	14	17.5
27	27	PARTICIPATION	4	15	25
28	28	HW 1	5	16	10
29	29	HW 2	5	16	10
30	30	TEST 1	5	17	15
31	31	TEST 2	5	17	15
32	32	EXAM 1	5	18	25
33	33	EXAM 2	5	18	25
34	34	HW 1	6	19	5
35	35	HW 2	6	19	5
36	36	TEST 1	6	20	10
37	37	TEST 2	6	20	10
38	38	EXAM 1	6	21	30
39	39	EXAM 2	6	21	30
40	40	TEST 3	6	20	10

TEST CASE:

assignment_id	assignment_name	OLD max_points	NEW max_points	EXPECTED max_points	PASS/FAIL
34	HW1	10	5	5	PASS
35	HW2	10	5	5	PASS
38	EXAM 1	25	30	30	PASS
39	EXAM 2	25	30	30	PASS

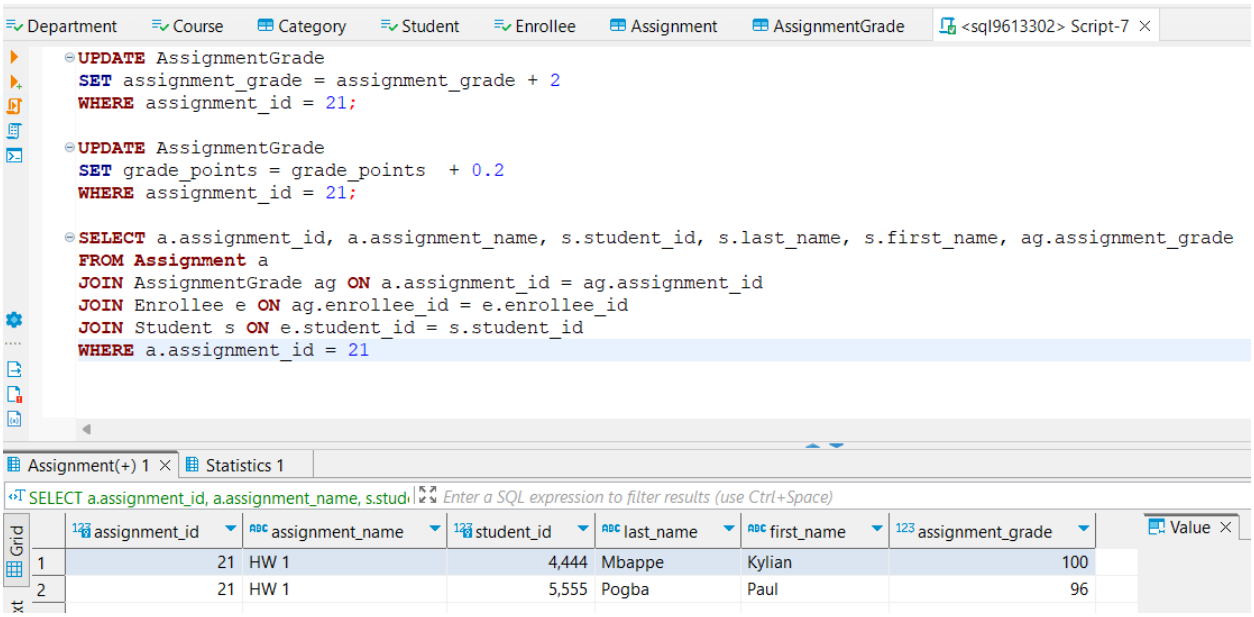
9. Add 2 percent to grade

CODE:

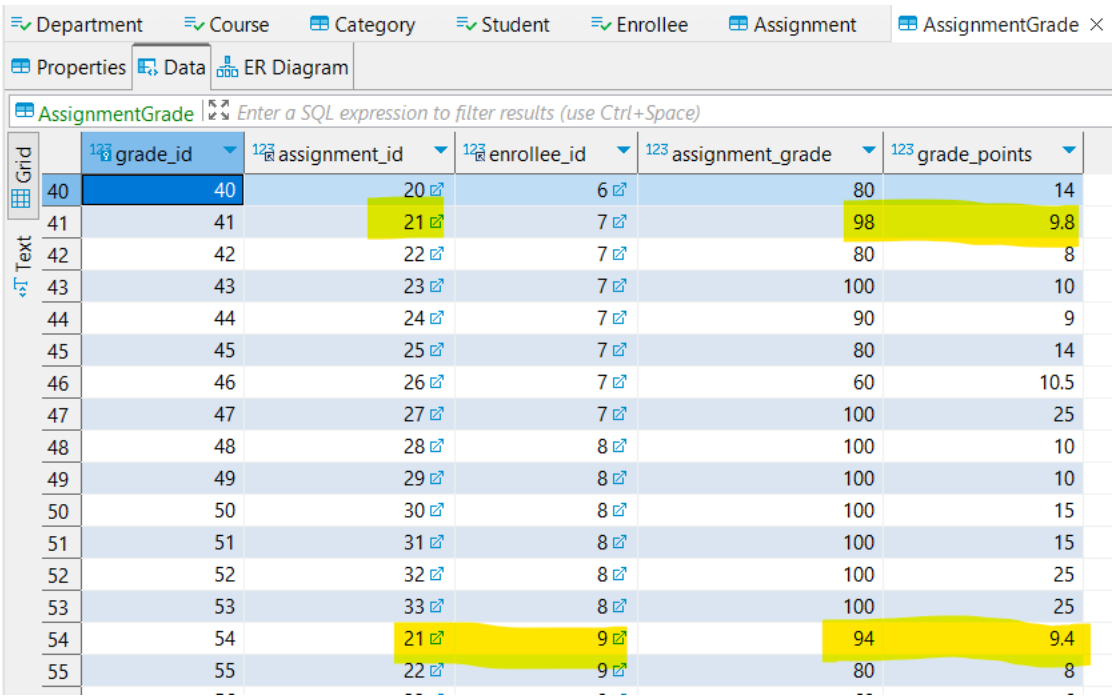
```
UPDATE AssignmentGrade
SET assignment_grade = assignment_grade + 2
WHERE assignment_id = 21;

UPDATE AssignmentGrade
SET grade_points = grade_points  + 0.2
WHERE assignment_id = 21;
```

```
SELECT a.assignment_id, a.assignment_name, s.student_id, s.last_name, s.first_name, ag.assignment_grade
FROM Assignment a
JOIN AssignmentGrade ag ON a.assignment_id = ag.assignment_id
JOIN Enrollee e ON ag.enrollee_id = e.enrollee_id
JOIN Student s ON e.student_id = s.student_id
WHERE a.assignment_id = 21
```

QUERY RESULT:

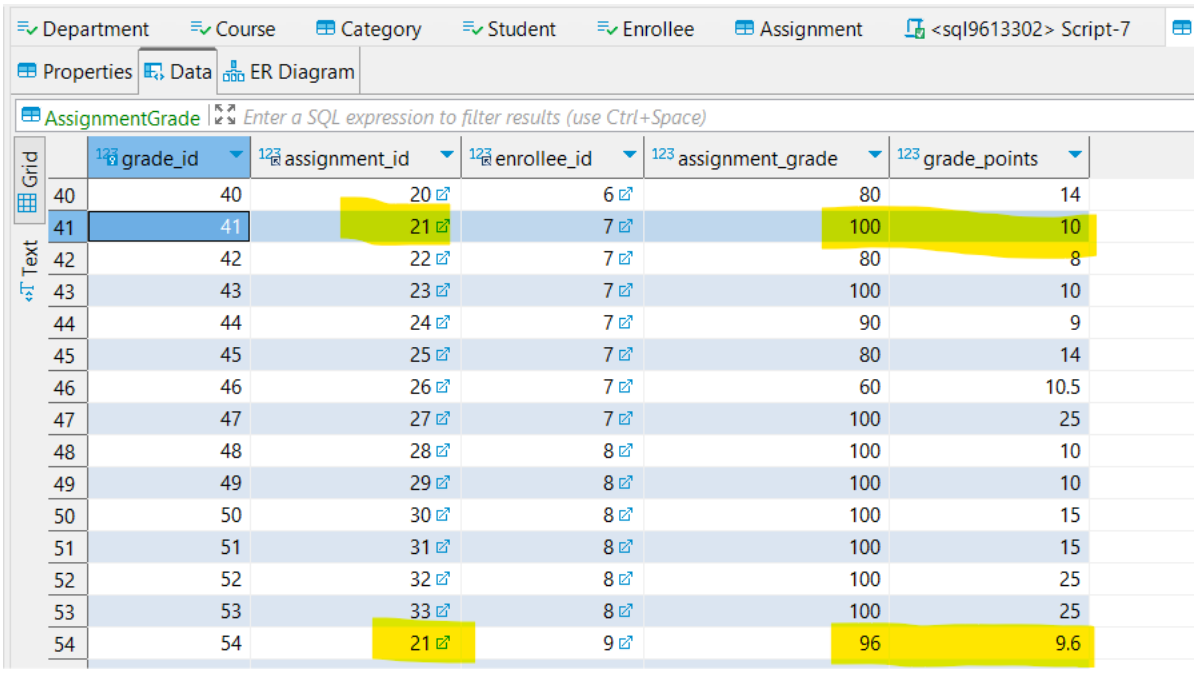


ASSIGNMENTGRADE FOR ASSIGNMENT 21 BEFORE TASK



	grade_id	assignment_id	enrollee_id	assignment_grade	grade_points
40	40	20	6	80	14
41	41	21	7	98	9.8
42	42	22	7	80	8
43	43	23	7	100	10
44	44	24	7	90	9
45	45	25	7	80	14
46	46	26	7	60	10.5
47	47	27	7	100	25
48	48	28	8	100	10
49	49	29	8	100	10
50	50	30	8	100	15
51	51	31	8	100	15
52	52	32	8	100	25
53	53	33	8	100	25
54	54	21	9	94	9.4
55	55	22	9	80	8

ASSIGNMENTGRADE TABLE CHANGE SEEN AFTER IN ASSIGNMENT 21 :



	grade_id	assignment_id	enrollee_id	assignment_grade	grade_points
40	40	20	6	80	14
41	41	21	7	100	10
42	42	22	7	80	8
43	43	23	7	100	10
44	44	24	7	90	9
45	45	25	7	80	14
46	46	26	7	60	10.5
47	47	27	7	100	25
48	48	28	8	100	10
49	49	29	8	100	10
50	50	30	8	100	15
51	51	31	8	100	15
52	52	32	8	100	25
53	53	33	8	100	25
54	54	21	9	96	9.6

TEST CASE:

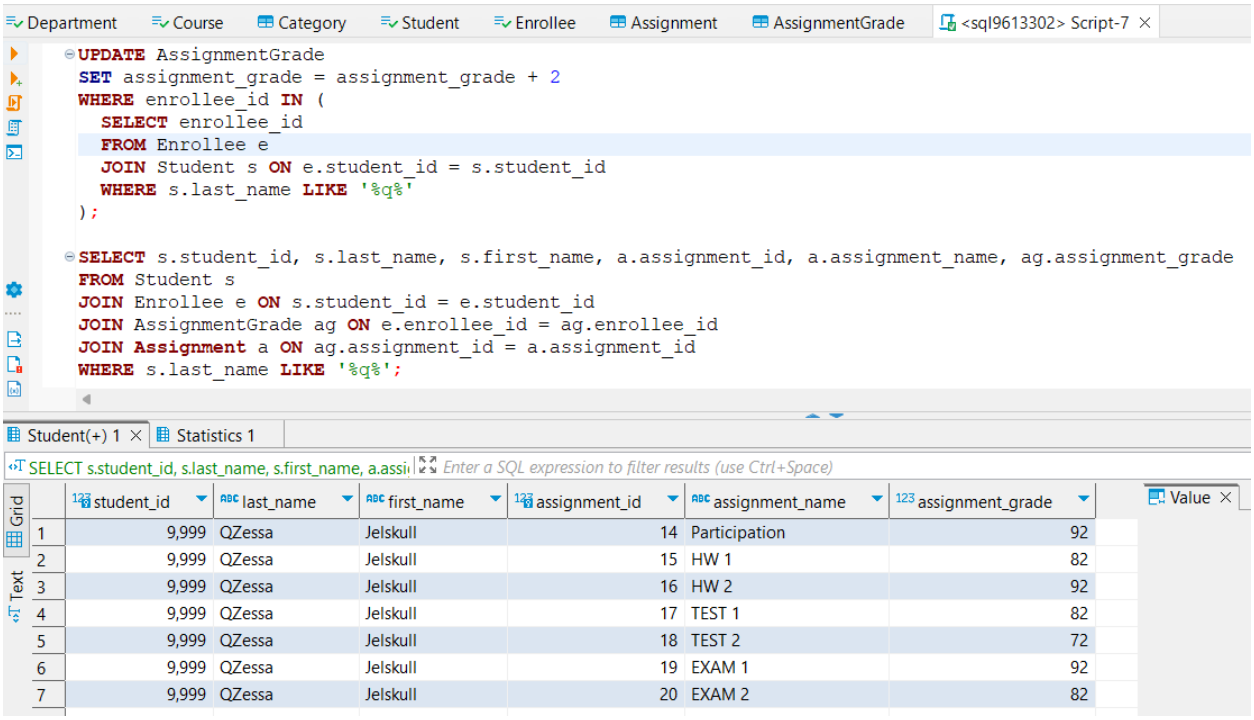
grade_id	assignment_id	OLD assignment_grade	NEW assignment_grade	EXPECTED assignment_grade	PASS/FAIL
41	21	98	100	100	PASS
54	21	94	96	96	PASS

10. 2 for the Q

CODE:

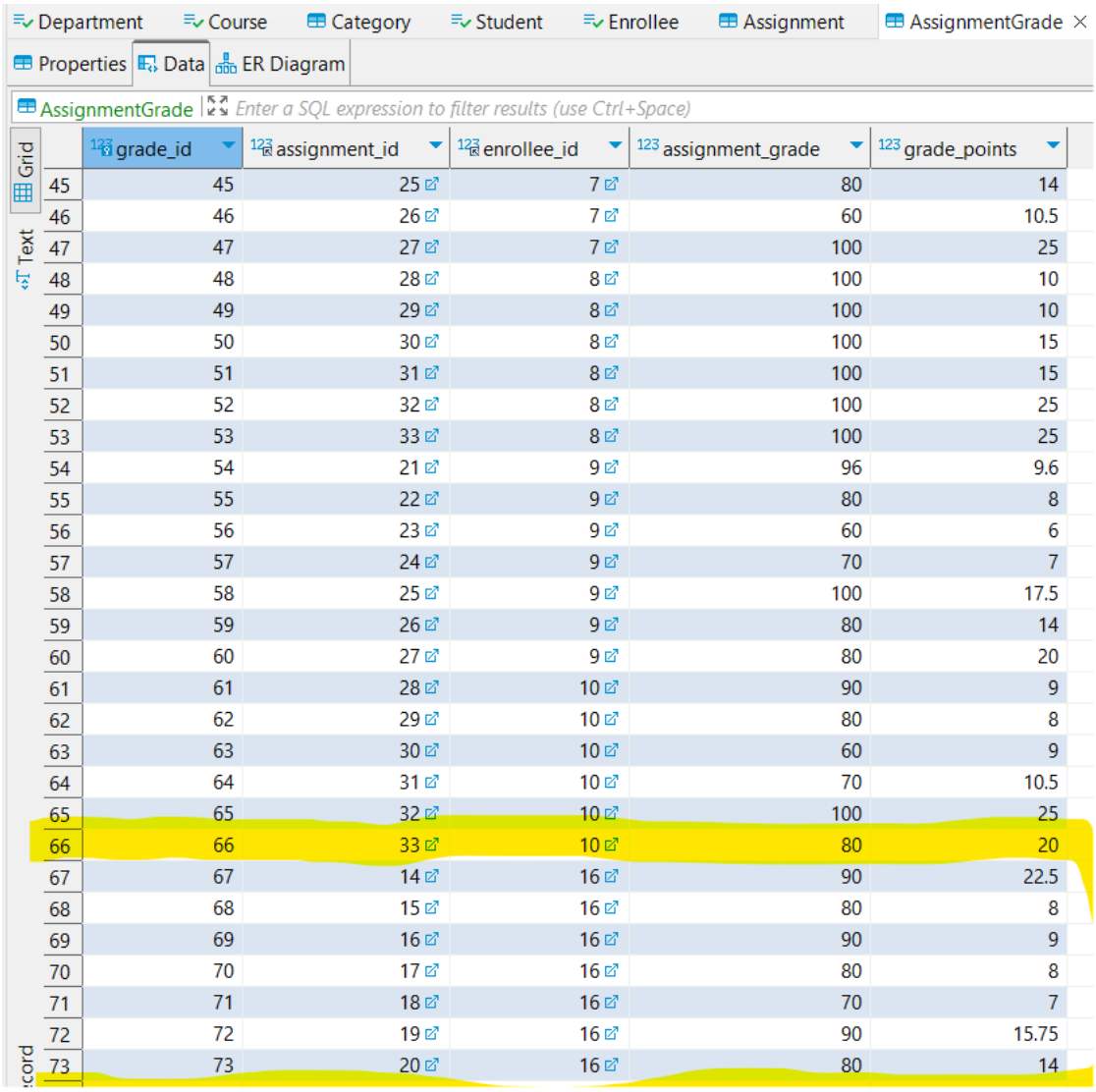
```
UPDATE AssignmentGrade
SET assignment_grade = assignment_grade + 2
WHERE enrollee_id IN (
  SELECT enrollee_id
  FROM Enrollee e
  JOIN Student s ON e.student_id = s.student_id
  WHERE s.last_name LIKE '%q%'
);

SELECT s.student_id, s.last_name, s.first_name, a.assignment_id, a.assignment_name, ag.assignment_grade
FROM Student s
JOIN Enrollee e ON s.student_id = e.student_id
JOIN AssignmentGrade ag ON e.enrollee_id = ag.enrollee_id
JOIN Assignment a ON ag.assignment_id = a.assignment_id
WHERE s.last_name LIKE '%q%';
```

TASK RESULT:



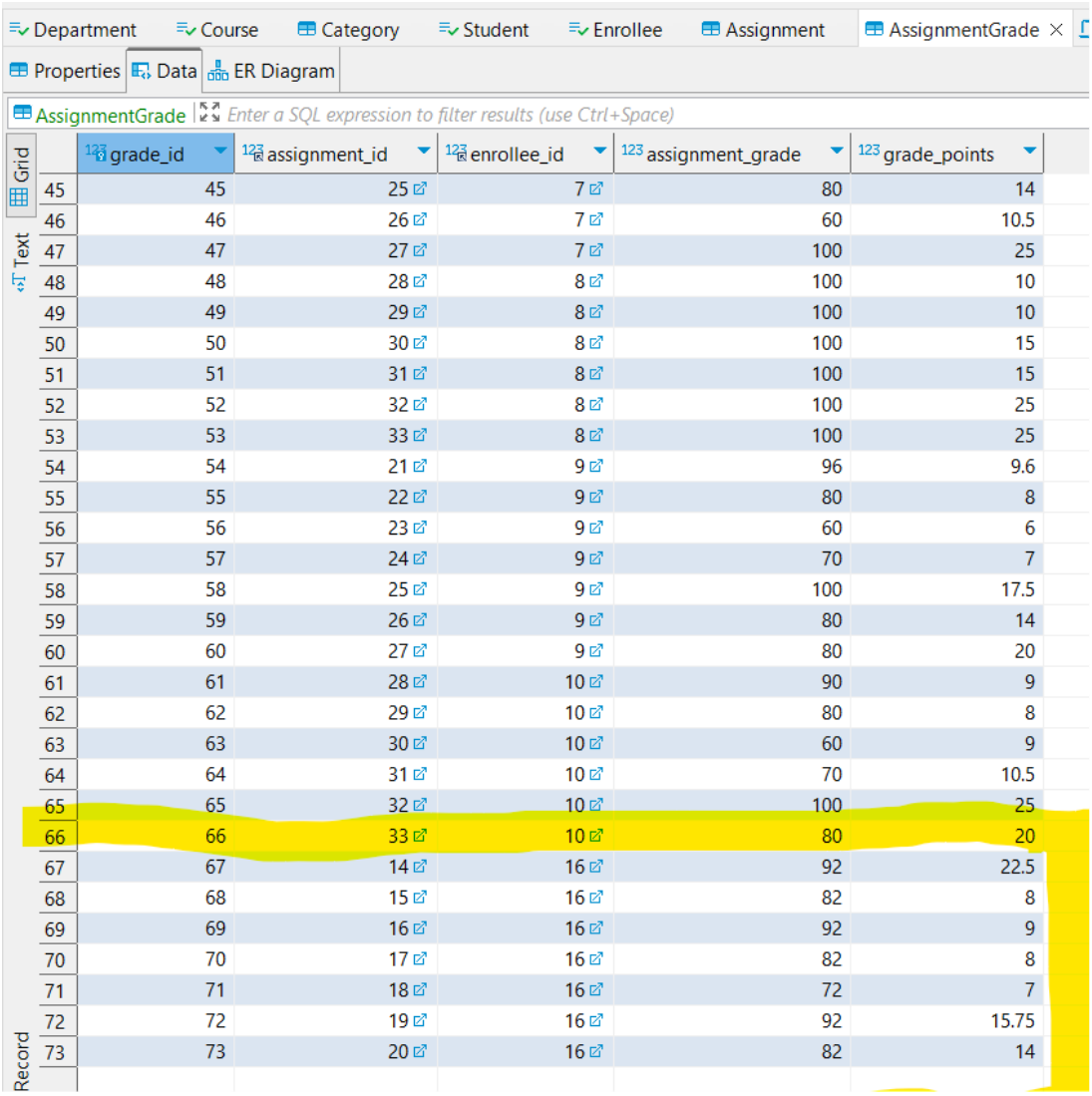
	student_id	last_name	first_name	assignment_id	assignment_name	assignment_grade
1	9,999	QZessa	Jelskull	14	Participation	92
2	9,999	QZessa	Jelskull	15	HW 1	82
3	9,999	QZessa	Jelskull	16	HW 2	92
4	9,999	QZessa	Jelskull	17	TEST 1	82
5	9,999	QZessa	Jelskull	18	TEST 2	72
6	9,999	QZessa	Jelskull	19	EXAM 1	92
7	9,999	QZessa	Jelskull	20	EXAM 2	82

TABLE SHOWING ALL GRADES FOR STUDENT WITH Q IN LAST NAME:



	grade_id	assignment_id	enrollee_id	assignment_grade	grade_points
45	45	25	7	80	14
46	46	26	7	60	10.5
47	47	27	7	100	25
48	48	28	8	100	10
49	49	29	8	100	10
50	50	30	8	100	15
51	51	31	8	100	15
52	52	32	8	100	25
53	53	33	8	100	25
54	54	21	9	96	9.6
55	55	22	9	80	8
56	56	23	9	60	6
57	57	24	9	70	7
58	58	25	9	100	17.5
59	59	26	9	80	14
60	60	27	9	80	20
61	61	28	10	90	9
62	62	29	10	80	8
63	63	30	10	60	9
64	64	31	10	70	10.5
65	65	32	10	100	25
66	66	33	10	80	20
67	67	14	16	90	22.5
68	68	15	16	80	8
69	69	16	16	90	9
70	70	17	16	80	8
71	71	18	16	70	7
72	72	19	16	90	15.75
73	73	20	16	80	14

TABLE SHOWING CHANGES IN GRADES FOR STUDENT WITH Q LASTNAME



	grade_id	assignment_id	enrollee_id	assignment_grade	grade_points
45	45	25	7	80	14
46	46	26	7	60	10.5
47	47	27	7	100	25
48	48	28	8	100	10
49	49	29	8	100	10
50	50	30	8	100	15
51	51	31	8	100	15
52	52	32	8	100	25
53	53	33	8	100	25
54	54	21	9	96	9.6
55	55	22	9	80	8
56	56	23	9	60	6
57	57	24	9	70	7
58	58	25	9	100	17.5
59	59	26	9	80	14
60	60	27	9	80	20
61	61	28	10	90	9
62	62	29	10	80	8
63	63	30	10	60	9
64	64	31	10	70	10.5
65	65	32	10	100	25
66	66	33	10	80	20
67	67	14	16	92	22.5
68	68	15	16	82	8
69	69	16	16	92	9
70	70	17	16	82	8
71	71	18	16	72	7
72	72	19	16	92	15.75
73	73	20	16	82	14

TEST CASE:

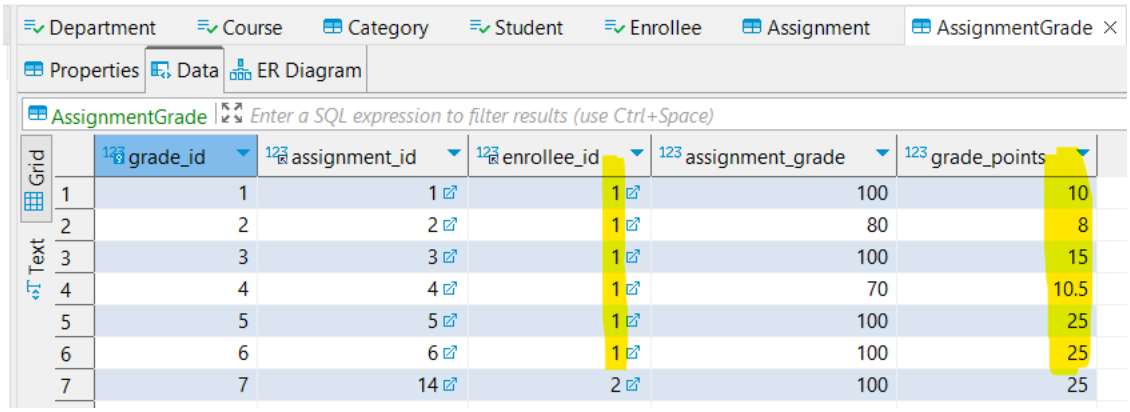
assignment_id	OLD assignment_grade	New assignment_grade	EXPECTED assignment_grade	PASS/FAIL
67	90	92	92	**PASS**
69	80	82	82	**PASS**
70	90	92	92	**PASS**
71	80	82	82	**PASS**
72	70	72	72	**PASS**
73	90	92	92	**PASS**
74	80	82	82	**PASS**

11. Compute Grade

```
SELECT s.student_id, s.first_name, s.last_name,c.course_number,c.course_name, SUM(ag.grade_points) AS FinalGrade
FROM Student s
JOIN Enrollee e ON s.student_id = e.student_id
JOIN AssignmentGrade ag ON e.enrollee_id = ag.enrollee_id
JOIN Course c on c.course_number = e.course_number
WHERE e.enrollee_id = 1;
```

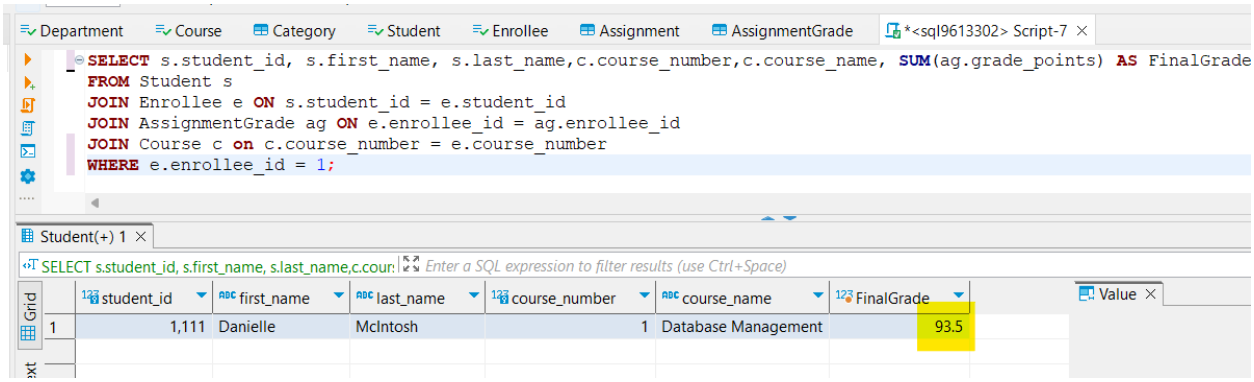
TABLE SHOWING CURRENT GRADES :

(Grade point is the weighted version so we use these for calculation):



	grade_id	assignment_id	enrollee_id	assignment_grade	grade_points
1	1	1	1	100	10
2	2	2	1	80	8
3	3	3	1	100	15
4	4	4	1	70	10.5
5	5	5	1	100	25
6	6	6	1	100	25
7	7	14	2	100	25

QUERY RESULT SHOWING SUM OF GRADES FOR STUDENT



	student_id	first_name	last_name	course_number	course_name	FinalGrade
1	1,111	Danielle	McIntosh	1	Database Management	93.5

TEST CASE:

FinalGrade = 10+8+15+10.5+25+25

= 93.5

Actual Result:

FinalGrade = 93.5

PASS