# Workshop 5
Updating data

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Specify what each member has done towards the completion of this work:

	Name	Task(s)
1	Jimmy Tran	Created the document and solved the workshop
2	Naman Grover	Provided feedback towards the solutions
3	Md Faiaz	Provided feedback towards the solutions

1. [4pts] Given the following table schema, write a SQL query to create the DEPARTMENT table. Define the pk constraint on a separate line after defining the columns. Define a check constraint in line with DEPT_EXT column definition. (refer to slide 7)

```
--Command for Question 1
CREATE TABLE DEPARTMENT(
DEPT_CODE varchar(10) NOT NULL,
DEPT_NAME varchar(30) NOT NULL,
DEPT_EXT numeric(4) NOT NULL CHECK (DEPT_EXT > 0),
PRIMARY KEY (DEPT_CODE)
);
```
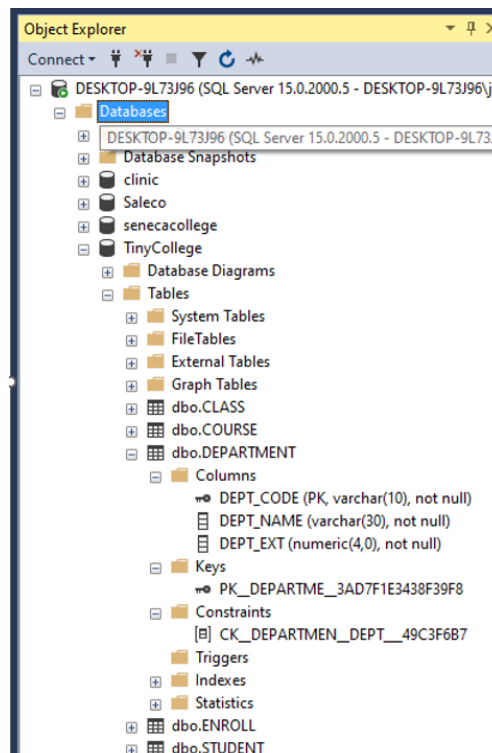
2. [4pts] Use an alter command to add the column STU_GPA with type float(8) to the STUDENT table with a default value equal 0 and a constraint to check for positive values when entered.
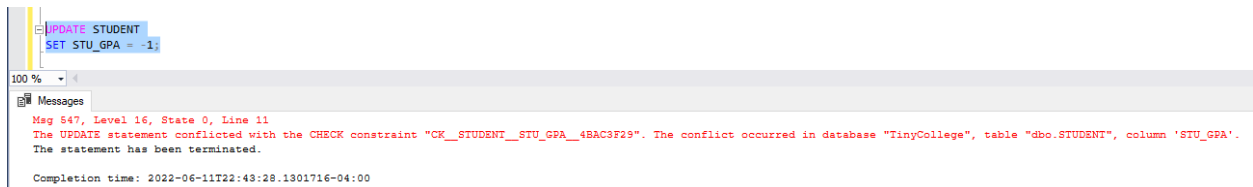
```
--Command for Question 2
ALTER TABLE  STUDENT
ADD STU_GPA float(8) DEFAULT 0 CHECK (STU_GPA > 0);
```
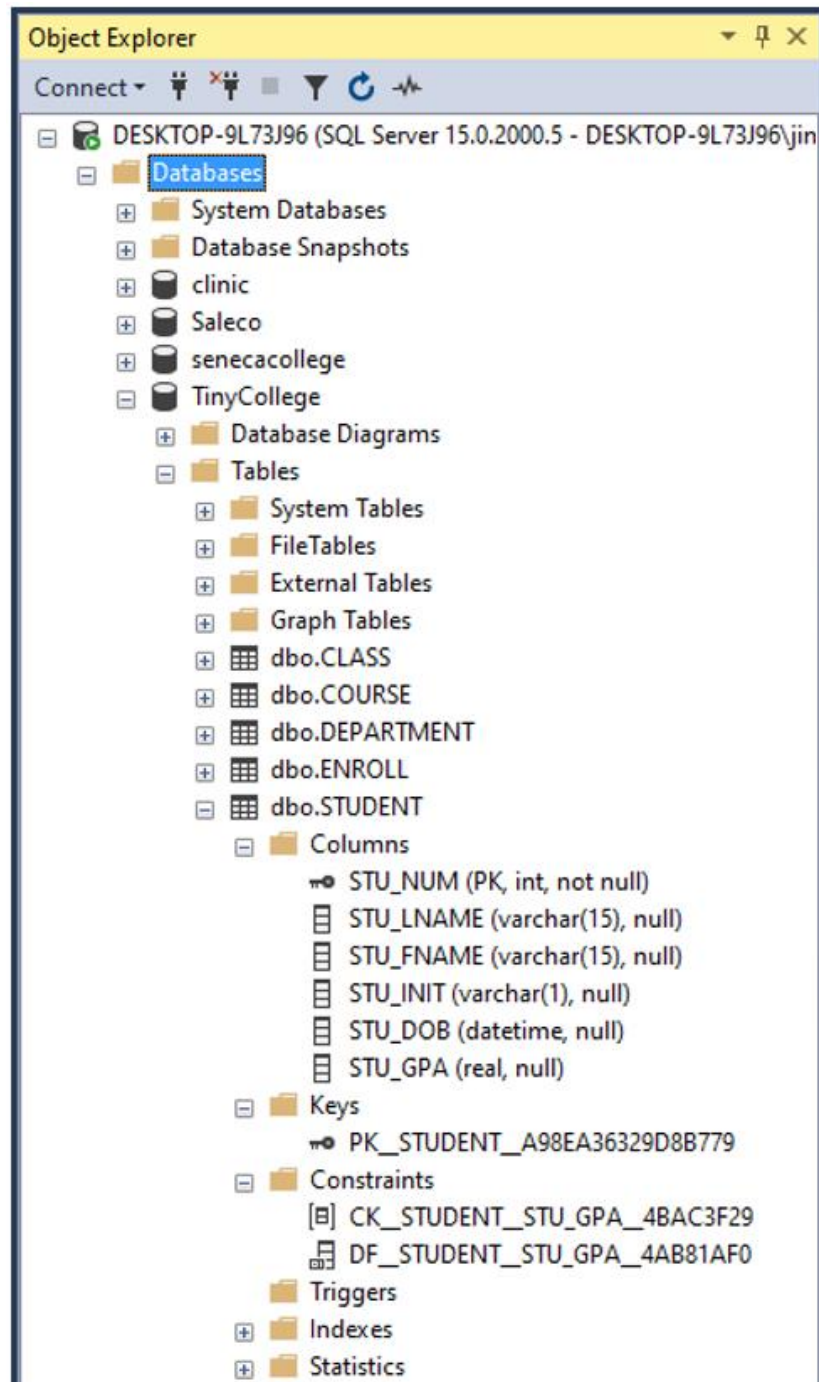
3. [4pts]
   [2pts] Write an update command to change STU_GPA to -1 to all students.
   [2pts] What message did you get from the system? Explain why did the sql query not go through.

```sql
--Command for Question 3
UPDATE STUDENT
SET STU_GPA = -1;
```

```
UPDATE STUDENT
SET STU_GPA = -1;
```

```
100 %
Messages
  Msg 547, Level 16, State 0, Line 11
  The UPDATE statement conflicted with the CHECK constraint "CK__STUDENT__STU_GPA__4BAC3F29". The conflict occurred in database "TinyCollege", table "dbo.STUDENT", column 'STU_GPA'.
  The statement has been terminated.

  Completion time: 2022-06-11T22:43:28.1301716-04:00
```

The SQL query did not go through due to the constraint that was added previously. The constrain was to check if STU_GPA was greater than 0, basically accepting only positive numbers.

4. [4pts]
   [3pts] Write an update command to change the STU_INIT to B for student 321452 and student 324258.
   [1pt] Then show the data in the student table after the changes in a tabular format.

```sql
--Command for Question 4
UPDATE STUDENT
SET STU_INIT = 'B'
WHERE STU_NUM = 321452 OR STU_NUM = 324258;
```

```sql
UPDATE STUDENT
SET STU_INIT = 'B'
WHERE STU_NUM = 321452 OR STU_NUM = 324258;
```

Solution1

SQLQuery3.sql - DE...L73J96\jimmy (56))

100 %
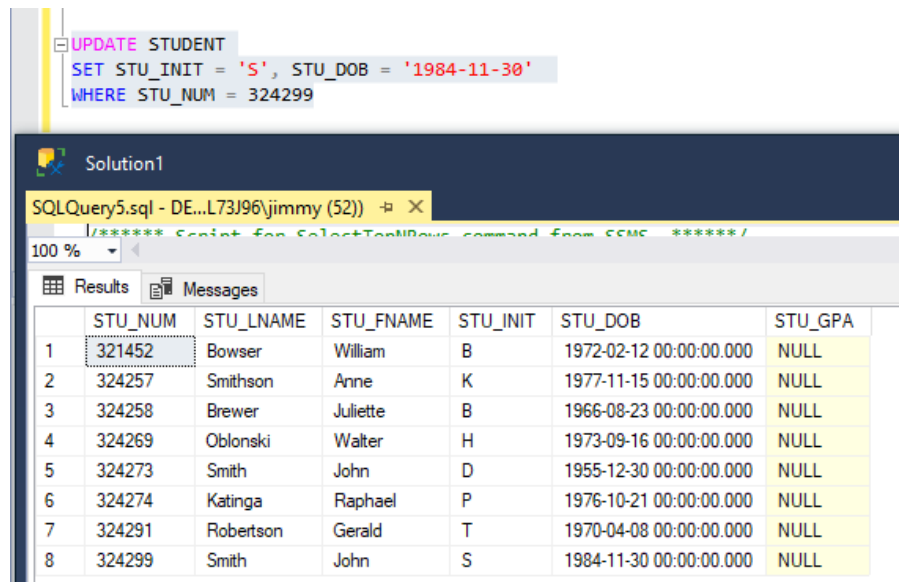
Results | Messages

	STU_NUM	STU_LNAME	STU_FNAME	STU_INIT	STU_DOB	STU_GPA
1	321452	Bowser	William	B	1972-02-12 00:00:00.000	NULL
2	324257	Smithson	Anne	K	1977-11-15 00:00:00.000	NULL
3	324258	Brewer	Juliette	B	1966-08-23 00:00:00.000	NULL
4	324269	Oblonski	Walter	H	1973-09-16 00:00:00.000	NULL
5	324273	Smith	John	D	1955-12-30 00:00:00.000	NULL
6	324274	Katinga	Raphael	P	1976-10-21 00:00:00.000	NULL
7	324291	Robertson	Gerald	T	1970-04-08 00:00:00.000	NULL
8	324299	Smith	John	B	1983-11-30 00:00:00.000	NULL

5. [3pts] Write an update command to change the STU_INIT to S and date of birth to 1984-11-30 for student whose STU_NUM is 324299.

```
--Command for Question 5
UPDATE STUDENT
SET STU_INIT = 'S', STU_DOB = '1984-11-30'
WHERE STU_NUM = 324299
```


6. [3pts]
   [2pts] Student 324257 would like to drop class 10021. Write the sql query to delete the corresponding enrollment record from the ENROLL table.
   [1pt] Show the data in the ENROLL table after the changes in a tabular format.

```
--Command for Question 6
DELETE FROM ENROLL
WHERE STU_NUM = 324257 AND CLASS_CODE = 10021
```
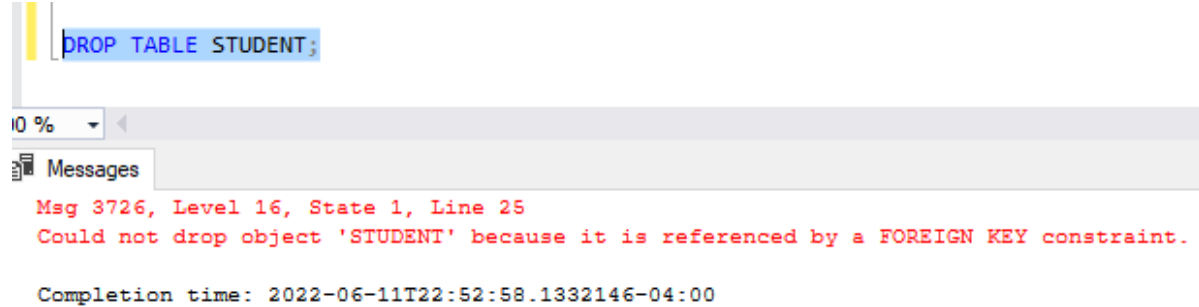
7. [5pts]
    7.1. [1pt] Write a sql query to drop the STUDENT table. (refer to slide 29)

```
--Command for Question 7
DROP TABLE STUDENT;
```

```
DROP TABLE STUDENT;
```

0 %

Messages

Msg 3726, Level 16, State 1, Line 25
Could not drop object 'STUDENT' because it is referenced by a FOREIGN KEY constraint.

Completion time: 2022-06-11T22:52:58.1332146-04:00

    7.2. [2pts] What error message did you get?
    Could not drop object: 'STUDENT' because it is referenced by a FOREIGN KEY constraint

    7.3. [2pts] Which table(s) references the STU_NUM in the student table? ENROLL
        Which rows in the child table caused dropping student table query to run into errors?

    All rows in the ENROLL table reference a STU_NUM that is currently in the STUDENT table.

8. [3pts] Commit a change: Write a sql query to change the ENROLL_GRADE for student number 321452 for the class code 10021 to A+. Enclose your query with begin transaction statement as follows:

```
--Command for Question 8
select * from ENROLL;
BEGIN TRANSACTION t
UPDATE ENROLL
SET ENROLL_GRADE = 'A+'
WHERE STU_NUM = 321452
go
select * from ENROLL;
```

```
select * from ENROLL;
BEGIN TRANSACTION t
UPDATE ENROLL
SET ENROLL_GRADE = 'A+'
WHERE STU_NUM = 321452
go
select * from ENROLL;
```

100 %

Results | Messages

	CLASS_CODE	STU_NUM	ENROLL_GRADE
1	10014	321452	C
2	10014	324257	B
3	10018	321452	A
4	10018	324257	B
5	10021	321452	C

	CLASS_CODE	STU_NUM	ENROLL_GRADE
1	10014	321452	A+
2	10014	324257	B
3	10018	321452	A+
4	10018	324257	B
5	10021	321452	A+

9. **[3pts]** Revert a change: our goal here is to revert the change post the update command using rollback. This is not possible if COMMIT was used in place of GO in the previous question. To rollback the last update on the ENROLL table, we need to specify the sql query that was used for the updates.

```
--Command for Question 9
select * from ENROLL;
BEGIN TRANSACTION t
UPDATE ENROLL
SET ENROLL_GRADE = 'A+'
WHERE STU_NUM = 321452
Rollback;
select * from ENROLL;
```

```
select * from ENROLL;
BEGIN TRANSACTION t
UPDATE ENROLL
SET ENROLL_GRADE = 'A+'
WHERE STU_NUM = 321452
Rollback;
select * from ENROLL;
```
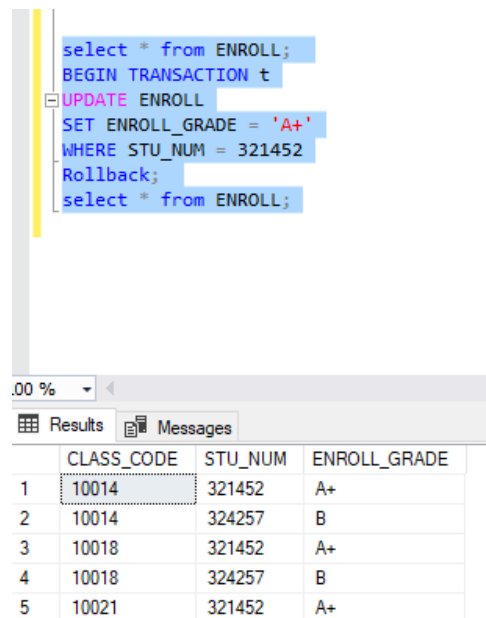
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▦ Results 📰 Messages

	CLASS_CODE	STU_NUM	ENROLL_GRADE
1	10014	321452	A+
2	10014	324257	B
3	10018	321452	A+
4	10018	324257	B
5	10021	321452	A+

	CLASS_CODE	STU_NUM	ENROLL_GRADE
1	10014	321452	C
2	10014	324257	B
3	10018	321452	A
4	10018	324257	B
5	10021	321452	C