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Course: CSE311

Section: 9

ASSIGNMENT ON

Cascade Operations

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CASCADE OPERATIONS: There are two types of Cascade operations one is ON DELETE CASCADE and another one is ON UPDATE CASCADE.

ON DELETE CASCADE: When we create a foreign key using ON DELETE CASCADE and then delete any record from the parent table then the referencing records in the child table will also be deleted.
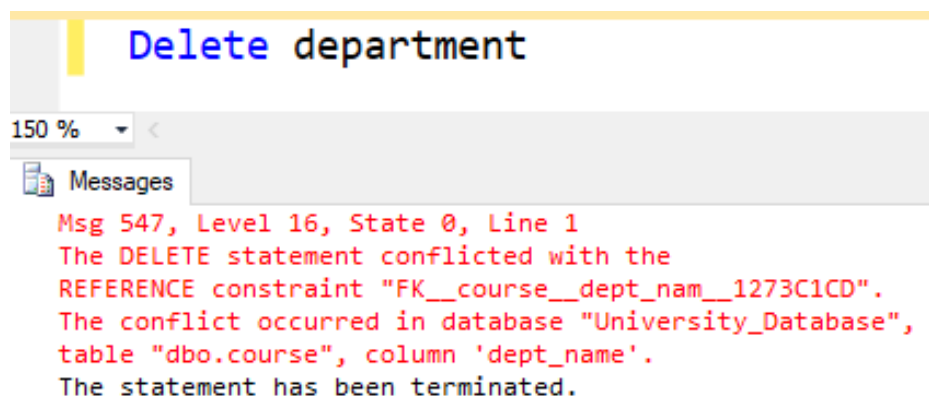
Here we tried to delete the records of department table that has multiple child tables but we couldn't delete them because we had not used any CASCADE operations while creating the child tables that's why the foreign keys from those child table were conflicting with it.

But now if we create the child tables using ON DELETE CASCADE and delete the records of department table here's what happens,
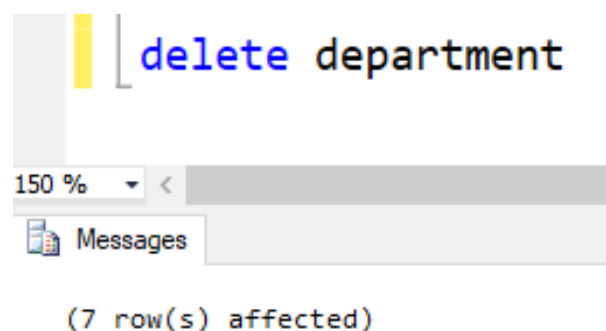
We successfully manage to delete the records of department table.

Before deleting the records from department table here's how the records from it and its child tables looked like,

```sql
select * from department
select * from course
select * from student
select * from instructor
```

150 %

Results | Messages

	dept_name	building	budget
1	Biology	Watson	90000
2	Comp. Sci.	Taylor	100000
3	Elec. Eng.	Taylor	85000

	course_id	title	dept_name	credits
1	BIO-101	Intro. to Biology	Biology	4.0
2	BIO-301	Genetics	Biology	4.0
3	BIO-399	Computational Biology	Biology	3.0

	ID	name	dept_name	tot_cred
1	16202	Sokina	Physics	122.5
2	17237	Nishat	Music	88.0
3	17329	Mina	History	76.0

	ID	name	dept_name	salary
1	10101	Srinivasan	Comp. Sci.	65000
2	12121	Wu	Finance	90000
3	15151	Mozart	Music	40000

But after deleting records from department table the referencing records from its child tables were also deleted along with them.

```sql
select * from department
select * from course
select * from student
select * from instructor
```

150 %

Results | Messages

dept_name	building	budget
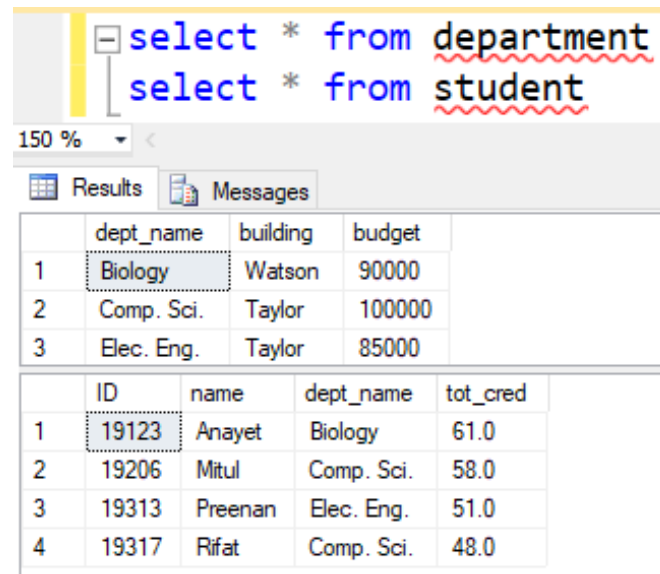
course_id	title	dept_name	credits

ID	name	dept_name	tot_cred

ID	name	dept_name	salary

ON UPDATE CASCADE: When we create a foreign key using ON UPDATE CASCADE and then update any record at the parent table then the referencing rows in the child table also gets updated with them.

After creating the child tables using ON UPDATE CASCADE here's how the tables looked like before updating the department table,
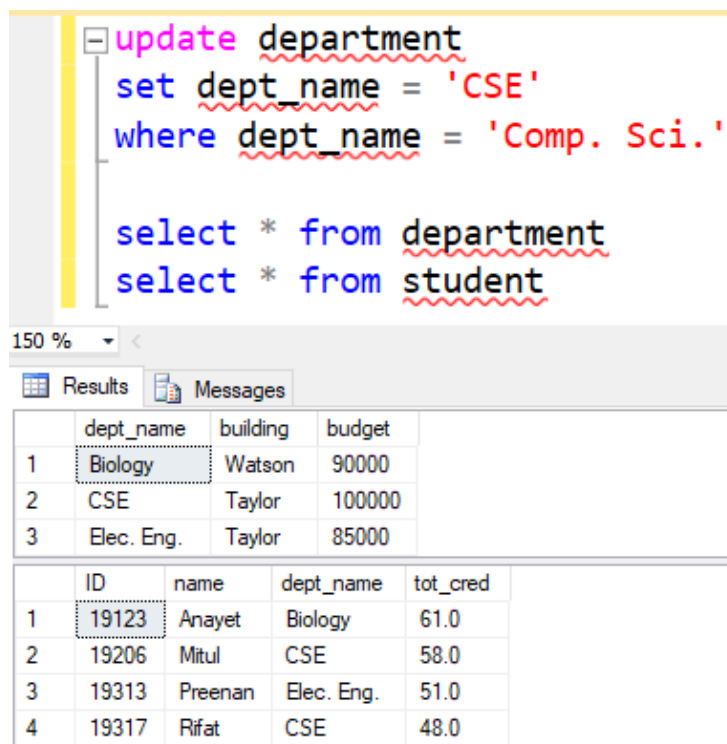
```sql
select * from department
select * from student
```

150 %

Results | Messages

	dept_name	building	budget
1	Biology	Watson	90000
2	Comp. Sci.	Taylor	100000
3	Elec. Eng.	Taylor	85000

	ID	name	dept_name	tot_cred
1	19123	Anayet	Biology	61.0
2	19206	Mitul	Comp. Sci.	58.0
3	19313	Preenan	Elec. Eng.	51.0
4	19317	Rifat	Comp. Sci.	48.0

But after we updated the dept_name in the parent table from 'Comp. Sci.' to 'CSE' the dept_name in the child tables were also updated.

```sql
update department
set dept_name = 'CSE'
where dept_name = 'Comp. Sci.'

select * from department
select * from student
```

150 %

Results | Messages

	dept_name	building	budget
1	Biology	Watson	90000
2	CSE	Taylor	100000
3	Elec. Eng.	Taylor	85000

	ID	name	dept_name	tot_cred
1	19123	Anayet	Biology	61.0
2	19206	Mitul	CSE	58.0
3	19313	Preenan	Elec. Eng.	51.0
4	19317	Rifat	CSE	48.0