

# CSE 303: Database

## Lecture 08

2016

Add, modify, delete data  
PART OF DML

## Adding data – review

```
INSERT INTO <table_name>[(a1,a2,...an)] VALUES(v1,v2,...vn)
```

### Full insert

```
INSERT INTO Student VALUES ('S123456789', 'John', 'Doe', 'Houston', 'TX');  
INSERT INTO Student VALUES ('S111111111', 'Mary', 'Jones', 'Houston', 'TX');
```

### Partial insert

```
INSERT INTO Student (id, first_name, last_name)  
VALUES ('S987654321', 'Jane', 'Smith');
```

## Bulk insert: Saving query results into a table

```
INSERT INTO <existing_table_name>  
SELECT ...;
```

Existing table

```
INSERT INTO <existing_table_name> (a1,a2,...,an)  
SELECT ...;
```

```
CREATE TABLE new_table_name AS  
SELECT ...  
...;
```

New table

Insert the fact that for every PC there is a laptop with the same manufacturer, speed, ram, and hard disk, a 17-inch screen, a model number 1100 greater and a price \$500 more

Maker	Model	Type
A	1001	pc
A	1002	pc
A	1003	pc
A	2004	laptop
A	2005	laptop
A	2006	laptop
B	1004	pc
B	1005	pc
B	1006	pc
B	2007	laptop
C	1007	pc
...	...	...
....	....	....

MODEL	SPEED	RAM	HD	PRICE
1001	2.66	1024	250	2114
1002	2.1	512	250	995
1003	1.42	512	80	478
1004	2.8	1024	250	649
1005	3.2	512	250	630
...	.....	...	...	...

PC

MODEL	SPEED	RAM	HD	SCREEN	PRICE
2001	2	2048	240	20.1	3673
2002	1.73	1024	80	17	949
2003	1.8	512	60	15.4	549
2004	2	512	60	13.3	1150
....	....	....	....	....	....

Laptop

Product

Insert the fact that for every PC there is a laptop with the same manufacturer, speed, ram, and hard disk, a 17-inch screen, a model number 1100 greater and a price \$500 more

```
INSERT INTO Laptop
SELECT model+1100,speed,ram,hd,17,price+500
FROM PC;
```

```
INSERT INTO Product
SELECT maker, model+1100, 'laptop'
FROM Product
WHERE type = 'pc';
```

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## Creating copy of a table (with copy of the schema)

Create a duplicate copy of Laptop table.

```
CREATE TABLE Laptop2 AS
SELECT *
FROM Laptop;
```

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## Deleting data

```
DELETE FROM <table_name>
```

unconditional

```
DELETE FROM <table_name>
WHERE....;
```

conditional

```
DELETE FROM Student;
```

```
DELETE FROM Student
WHERE id='121';
```

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Delete all PC's with less than 100 GB hard disk

Maker	Model	Type
A	1001	pc
A	1002	pc
A	1003	pc
A	2004	laptop
A	2005	laptop
A	2006	laptop
B	1004	pc
B	1005	pc
B	1006	pc
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...	...	...
....	....	....

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....	....	....	....	....	....

Laptop

Product

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Delete all PC's with less than 100 GB hard disk

```
DELETE FROM Product
WHERE model IN (SELECT model
                FROM PC
                WHERE hd < 100);
```

```
DELETE FROM PC
WHERE hd < 100 ;
```

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Delete all laptops made by manufacturer that does not make printers

Maker	Model	Type
A	1001	pc
A	1002	pc
A	1003	pc
A	2004	laptop
A	2005	laptop
A	2006	laptop
B	1004	pc
B	1005	pc
B	1006	pc
B	2007	laptop
C	1007	pc
...	...	...
...	...	...
...	...	...

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....	....	.....	....	.....	.....

PC

Laptop

Product

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Delete all laptops made by manufacturer that does not make printers

```
DELETE FROM Product
WHERE type = 'laptop'
AND maker NOT IN (SELECT maker
                  FROM Product
                  WHERE type = 'printer');
```

```
DELETE FROM Laptop
WHERE model NOT IN (SELECT model
                   FROM Product
                   WHERE type = 'laptop');
```

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## Modifying data

```
UPDATE <table_name>
SET <attribute_name1> = <v1>, <attribute_name2> = <v2>.....
WHERE.....;
```

```
UPDATE Student
SET city = 'Austin', state = 'TX'
WHERE id = 'S123456789';
```

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Manufacturer A buys manufacturer B. Change all products made by B so they are now made by A

```
UPDATE Product
SET maker = 'A'
WHERE maker = 'B';
```

For each laptop made by manufacturer B, add one inch to the screen size and subtract \$100 from the price

Maker	Model	Type
A	1001	pc
A	1002	pc
A	1003	pc
A	2004	laptop
A	2005	laptop
A	2006	laptop
B	1004	pc
B	1005	pc
B	1006	pc
B	2007	laptop
C	1007	pc
...	...	...
...	...	...
...	...	...

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....	....	.....	....	.....	.....

Laptop

Product

For each laptop made by manufacturer B, add one inch to the screen size and subtract \$100 from the price

```
UPDATE laptop
SET screen = screen + 1, price = price - 100
WHERE model IN (SELECT model
FROM Product
WHERE type = 'laptop'
AND maker = 'B');
```