

Intro to Database

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11/7/2019

SQL Table Joining Example

Stock

CUSIP	Date	Price
AAPL	11/2/2014	100
AAPL	11/3/2014	105
AAPL	11/4/2014	106
BABA	11/2/2014	90
BABA	11/3/2014	100
BABA	11/4/2014	80

Position

CUSIP	Date
baba	11/2/2014

Example Cont

- Have to use alias
- Because these tables have the same column

```
select * from Stock, Position  
where cusip = cusip
```

- This will not work!

Example Cont

select * from Stock a, Position b
where a.cusip = b.cusip

Output

CUSIP	Date	Price	Cusip	Date
BABA	2014/11/2	80	BABA	2014/11/2
BABA	2014/11/3	90	BABA	2014/11/2
BABA	2014/11/4	100	BABA	2014/11/2

Example Cont

```
select a.cusip as A_CUSIP, b.cusip as B_CUSIP  
from Stock a, Position b  
where a.cusip = b.cusip
```

Example Cont

Output

A_CUSIP	B_CUSIP
BABA	BABA
BABA	BABA
BABA	BABA

Join

```
select * from Stock a, Position b  
where a.cusip = b.cusip
```

This is called inner join!

Alternative approach:

```
select *  
from Position a  
inner join Stock b  
on a.cusip = b.CUSIP
```

Join

- What is the difference between:

```
select *  
from Position a  
inner join Stock b  
on a.cusip = b.CUSIP
```

AND

```
select *  
from Stock a  
inner join Position b  
on a.cusip = b.CUSIP
```


Join

Case #1

CUSIP	Date	CUSIP	Date	Price
BABA	2014/11/2	BABA	2014/11/3	80
BABA	2014/11/2	BABA	2014/11/4	90
BABA	2014/11/2	BABA	2014/11/5	100

Case #2

CUSIP	Date	Price	Cusip	Date
BABA	2014/11/2	80	BABA	2014/11/2
BABA	2014/11/3	90	BABA	2014/11/2
BABA	2014/11/4	100	BABA	2014/11/2

Different Types of Join

- Inner Join
- Left Join
- Right Join

Join Table

Stock

CUSIP	Date	Price
AAPL	11/2/2014	100
AAPL	11/3/2014	105
AAPL	11/4/2014	106
BABA	11/2/2014	90
BABA	11/3/2014	100
BABA	11/4/2014	80

Position

CUSIP	Date
baba	11/2/2014

Left Join

```
select *  
from Stock a  
left join Postion b  
on a.cusip = b.CUSIP
```

Left Join

CUSIP	Date	Price	CUSIP	Date
AAPL	2014/11/2	100	NULL	NULL
AAPL	2014/11/3	105	NULL	NULL
BABA	2014/11/3	90	BABA	2014/11/2
BABA	2014/11/4	100	BABA	2014/11/2
AAPL	2014/11/4	106	NULL	NULL
BABA	2014/11/2	80	BABA	2014/11/2

Right Join

```
select *  
from test a  
right join watch_list b  
on a.cusip = b.CUSIP
```

Right Join

CUSIP	Date	Price	Cusip	Date
BABA	2014/11/2	80	BABA	2014/11/2
BABA	2014/11/3	90	BABA	2014/11/2
BABA	2014/11/4	100	BABA	2014/11/2

Database Data Operation

- Insert
- INSERT INTO *table_name*
VALUES (*value1,value2,value3,...*);
- INSERT INTO *table_name* (*column1,column2,column3,...*)
VALUES (*value1,value2,value3,...*);
- UPDATE *table_name*
SET *column1=value1,column2=value2,...*
WHERE *some_column=some_value*;
- SELECT *
INTO *newtable* [IN *externaldb*]
FROM *table1*;

- DELETE FROM *table_name*
WHERE *some_column=some_value*;
- DELETE FROM *table_name*;
- TRUNCATE TABLE *table_name*

Temporary table

- `CREATE Temporary TABLE new_tbl SELECT * FROM orig_tbl;`