

# Session 6-3 Inner Join 2

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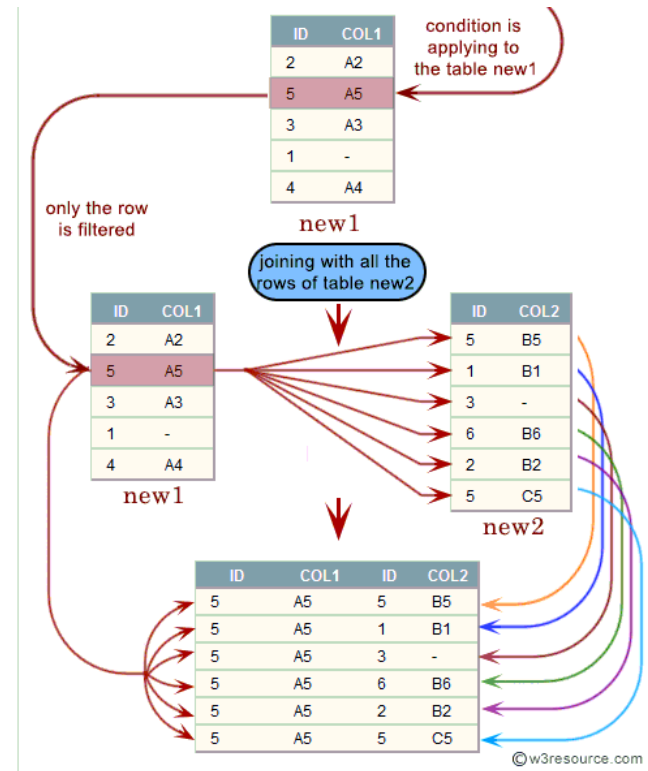
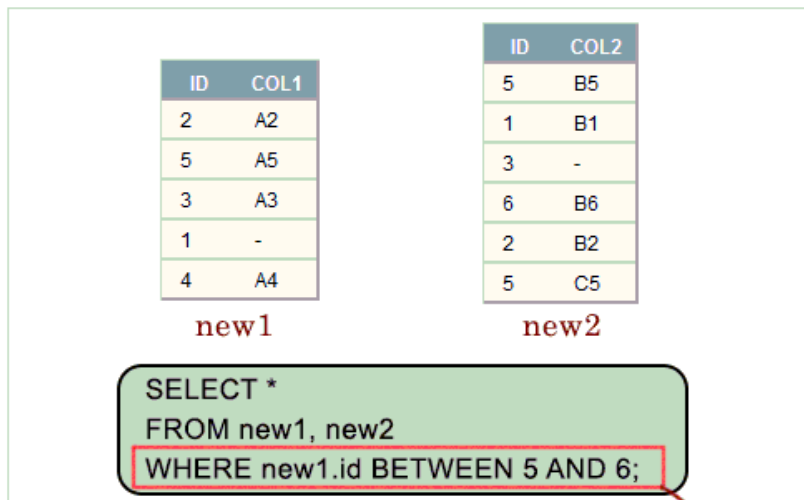
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# Non-Equality Joins

- In WHERE clause, use any comparison operator other than the equal sign
- In FROM clause, use JOIN...ON keywords with a non-equivalent condition



# Non-Equality Joins



# Non-Equality Joins to Join Tables based on Non PK-FK “relationship”

Q) Determine which gift a customer would get depending on the retail price of books she/he bought

```
select gift, minretail, maxretail
from promotion
```

Execute Load Script Save Script Cancel

GIFT	MINRETAIL	MAXRETAIL
BOOKMARKER	0	12
BOOK LABELS	12.01	25
BOOK COVER	25.01	56
FREE SHIPPING	56.01	999.99

```
SELECT title, retail
FROM books
```

Execute Load Script Save Script Cancel

TITLE	RETAIL
BODYBUILD IN 10 MINUTES A DAY	30.95
REVENGE OF MICKEY	22
BUILDING A CAR WITH TOOTHPICKS	59.95
DATABASE IMPLEMENTATION	55.95
COOKING WITH MUSHROOMS	19.95
HOLY GRAIL OF ORACLE	75.95
HANDCRANKED COMPUTERS	25
E-BUSINESS THE EASY WAY	54.5
PAINLESS CHILD-REARING	89.95
THE WOK WAY TO COOK	28.75
BIG BEAR AND LITTLE DOVE	8.95
HOW TO GET FASTER PIZZA	29.95
HOW TO MANAGE THE MANAGER	31.95
SHORTEST POEMS	39.95



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# Non-Equality Joins to Join Tables based on Non PK-FK “relationship”

Q) Determine which gift a customer would get depending on the retail price of books she/he bought

The screenshot shows a SQL query editor window with the following text:

```
SELECT title, gift  
FROM books, promotion  
WHERE retail BETWEEN minretail AND maxretail;
```

The word **retail** in the WHERE clause is highlighted with a red box. An arrow points from the text "From BOOKS table" below to this box. The phrase **minretail AND maxretail** is also highlighted with a red box. An arrow points from the text "From PROMOTION table" below to this box. Below the query editor are four buttons: "Execute", "Load Script", "Save Script", and "Cancel".

***Two tables are joined with a condition other than equality = Non-equality Join***



# Non-Equality Joins: WHERE Clause Example

```
SELECT title, gift  
FROM books, promotion  
WHERE retail BETWEEN minretail AND maxretail
```

Execute

Load Script

Save Script

Cancel

TITLE	GIFT
BIG BEAR AND LITTLE DOVE	BOOKMARKER
COOKING WITH MUSHROOMS	BOOK LABELS
REVENGE OF MICKEY	BOOK LABELS
HANDCRANKED COMPUTERS	BOOK LABELS
THE WOK WAY TO COOK	BOOK COVER
HOW TO GET FASTER PIZZA	BOOK COVER
BODYBUILD IN 10 MINUTES A DAY	BOOK COVER
HOW TO MANAGE THE MANAGER	BOOK COVER
SHORTEST POEMS	BOOK COVER
E-BUSINESS THE EASY WAY	BOOK COVER
DATABASE IMPLEMENTATION	BOOK COVER
BUILDING A CAR WITH TOOTHPICKS	FREE SHIPPING
HOLY GRAIL OF ORACLE	FREE SHIPPING
PAINLESS CHILD-REARING	FREE SHIPPING

14 rows selected.



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# Non-Equality Joins: JOIN...ON Example

```
SELECT title, gift  
FROM books JOIN promotion  
ON retail BETWEEN minretail AND maxretail;
```

Execute

Load Script

Save Script

Cancel



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# Self-Joins

- Used to link a table to itself
- Requires the use of table aliases
- Requires the use of a column qualifier

Unary  
Relationship  
(Recursive)



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# Self-Joins

```
select customer#, lastname, firstname, referred  
from customers
```

Execute Load Script Save Script Cancel

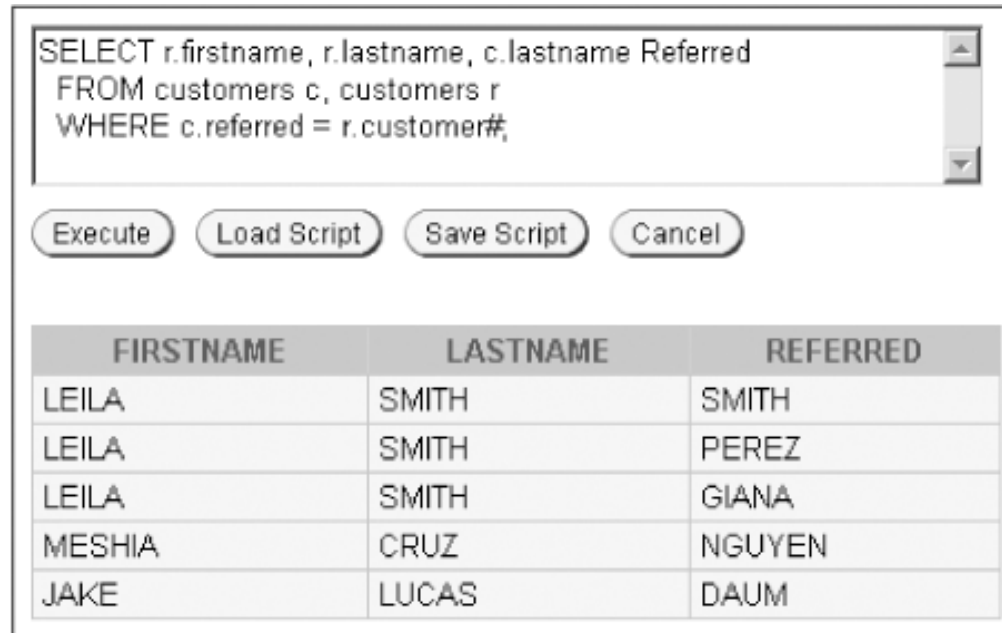
CUSTOMER#	LASTNAME	FIRSTNAME	REFERRED
1001	MORALES	BONITA	
1002	THOMPSON	RYAN	
1003	SMITH	LEILA	
1004	PIERSON	THOMAS	
1005	GIRARD	CINDY	
1006	CRUZ	MESHIA	
1007	GIANA	TAMMY	1003
1008	JONES	KENNETH	
1009	PEREZ	JORGE	1003
1010	LUCAS	JAKE	
1011	MCGOVERN	REESE	
1012	MCKENZIE	WILLIAM	
1013	NGUYEN	NICHOLAS	1006
1014	LEE	JASMINE	
1015	SHELL	STEVE	
1016	DAUM	MICHELL	1010
1017	NELSON	BECCA	
1018	MONTIASA	GREG	
1019	SMITH	JENNIFER	1003
1020	FALAH	KENNETH	

Customer# 1003 (Lelia Smith) has referred three customers:

- Giana (1007)
- Perez (1009)
- Smith (1019)



# Self-Joins: WHERE Clause Example



The screenshot shows a database query window with the following SQL query:

```
SELECT r.firstname, r.lastname, c.lastname Referred
FROM customers c, customers r
WHERE c.referred = r.customer#;
```

Below the query are four buttons: Execute, Load Script, Save Script, and Cancel.

The results are displayed in a table with three columns: FIRSTNAME, LASTNAME, and REFERRED.

FIRSTNAME	LASTNAME	REFERRED
LEILA	SMITH	SMITH
LEILA	SMITH	PEREZ
LEILA	SMITH	GIANA
MESHIA	CRUZ	NGUYEN
JAKE	LUCAS	DAUM

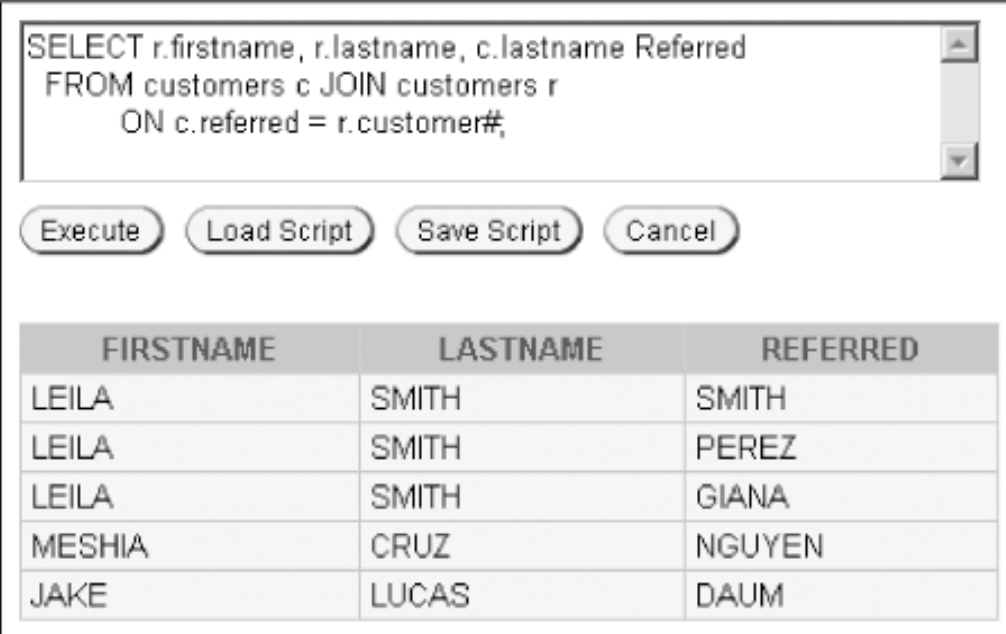
**FIGURE 9-23** A self-join constructed in the WHERE clause



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# Self-Joins: JOIN...ON Example



The screenshot shows a database query window. At the top, a text area contains the following SQL query:

```
SELECT r.firstname, r.lastname, c.lastname Referred  
FROM customers c JOIN customers r  
ON c.referred = r.customer#;
```

Below the text area are four buttons: "Execute", "Load Script", "Save Script", and "Cancel".

Below the buttons is a table with the following data:

FIRSTNAME	LASTNAME	REFERRED
LEILA	SMITH	SMITH
LEILA	SMITH	PEREZ
LEILA	SMITH	GIANA
MESHIA	CRUZ	NGUYEN
JAKE	LUCAS	DAUM

**FIGURE 9-24** A self-join using the JOIN...ON keywords



# Wrap-up

- Non-equality Join
- Self-Join

