

MySQL - Logical Challenges + Relationship - Lecture 21

```
mysql> SELECT 10 != 10;
+-----+
| 10 != 10 |
+-----+
|      0   |
+-----+
1 row in set (0.00 sec)

mysql> SELECT 15 > 14 AND 99 - 5 <= 94;
+-----+
| 15 > 14 AND 99 - 5 <= 94 |
+-----+
|            1   |
+-----+
1 row in set (0.19 sec)

mysql> SELECT 1 IN (5,3) OR 9 BETWEEN 8 AND 10;
+-----+
| 1 IN (5,3) OR 9 BETWEEN 8 AND 10 |
+-----+
|           1   |
+-----+
1 row in set (0.00 sec)
```

1. Select All Books Written Before 1980 (non inclusive)

```
mysql> SELECT * FROM Books WHERE released_year < 1980;
+-----+-----+-----+-----+-----+-----+-----+
| book_id | title      | author_fname | author_lname | released_year | stock_quantity | pages |
+-----+-----+-----+-----+-----+-----+-----+
|    14 | Cannery Row | John        | Steinbeck   |         1945 |          95    | 181   |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

2. Select All Books Written By Eggers Or Chabon.

```
mysql> SELECT * FROM Books WHERE author_lname = "Eggers" OR author_lname = "Chabon";
+-----+-----+-----+-----+-----+-----+-----+
| book_id | title      | author_fname | author_lname | released_year | stock_quantity | pages |
+-----+-----+-----+-----+-----+-----+-----+
|    5 | A Hologram for the King: A Novel | Dave        | Eggers      |       2012 |          154 | 352   |
|    6 | The Circle                         | Dave        | Eggers      |       2013 |           26  | 504   |
|    7 | The Amazing Adventures of Kavalier & Clay | Michael    | Chabon     |       2000 |           68  | 634   |
|    9 | A Heartbreaking Work of Staggering Genius | Dave        | Eggers      |       2001 |          104  | 437   |
+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> SELECT * FROM Books WHERE author_lname IN ("Eggers", "Chabon");
+-----+-----+-----+-----+-----+-----+-----+
| book_id | title      | author_fname | author_lname | released_year | stock_quantity | pages |
+-----+-----+-----+-----+-----+-----+-----+
|    5 | A Hologram for the King: A Novel | Dave        | Eggers      |       2012 |          154 | 352   |
|    6 | The Circle                         | Dave        | Eggers      |       2013 |           26  | 504   |
|    7 | The Amazing Adventures of Kavalier & Clay | Michael    | Chabon     |       2000 |           68  | 634   |
|    9 | A Heartbreaking Work of Staggering Genius | Dave        | Eggers      |       2001 |          104  | 437   |
+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

3. Select All Books Written By Lahiri, Published after 2000

```
mysql> SELECT * FROM Books WHERE author_lname = "Lahiri" AND released_year > 2000;
+-----+-----+-----+-----+-----+-----+
| book_id | title | author_fname | author_lname | released_year | stock_quantity | pages |
+-----+-----+-----+-----+-----+-----+
| 1 | The Namesake | Jhumpa | Lahiri | 2003 | 32 | 291 |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

4. Select All books with page counts between 100 and 200

```
mysql> SELECT * FROM Books WHERE pages BETWEEN 100 AND 200;
+-----+-----+-----+-----+-----+-----+
| book_id | title | author_fname | author_lname | released_year | stock_quantity | pages |
+-----+-----+-----+-----+-----+-----+
| 4 | Interpreter of Maladies | Jhumpa | Lahiri | 1996 | 97 | 198 |
| 11 | What We Talk About When We Talk About Love: Stories | Raymond | Carver | 1981 | 23 | 176 |
| 14 | Cannery Row | John | Steinbeck | 1945 | 95 | 181 |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

5. Select all books where author_lname starts with a 'C' or an 'S'

```
mysql> SELECT * FROM Books WHERE author_lname LIKE "C%" OR author_lname LIKE "S%";
+-----+-----+-----+-----+-----+-----+
| book_id | title | author_fname | author_lname | released_year | stock_quantity | pages |
+-----+-----+-----+-----+-----+-----+
| 7 | The Amazing Adventures of Kavalier & Clay | Michael | Chabon | 2000 | 68 | 634 |
| 8 | Just Kids | Patti | Smith | 2010 | 55 | 304 |
| 11 | What We Talk About When We Talk About Love: Stories | Raymond | Carver | 1981 | 23 | 176 |
| 12 | Where I'm Calling From: Selected Stories | Raymond | Carver | 1989 | 12 | 526 |
| 14 | Cannery Row | John | Steinbeck | 1945 | 95 | 181 |
| 19 | Lincoln In The Bardo | George | Saunders | 2017 | 1000 | 367 |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

6.

If title contains 'stories' -> Short Stories
Just Kids and A Heartbreaking Work -> Memoir
Everything Else -> Novel

title	author_lname	TYPE
The Namesake	Lahiri	Novel
Norse Mythology	Gaiman	Novel
American Gods	Gaiman	Novel
Interpreter of Maladies	Lahiri	Novel
A Hologram for the King: A Novel	Eggers	Novel
The Circle	Eggers	Novel
The Amazing Adventures of Kavalier & Clay	Chabon	Novel
Just Kids	Smith	Memoir
A Heartbreaking Work of Staggering Genius	Eggers	Memoir
Coraline	Gaiman	Novel
What We Talk About When We Talk About Love: Stories	Carver	Short Stories
Where I'm Calling From: Selected Stories	Carver	Short Stories
White Noise	DeLillo	Novel
Cannery Row	Steinbeck	Novel
Oblivion: Stories	Foster Wallace	Short Stories
Consider the Lobster	Foster Wallace	Novel
10% Happier	Harris	Novel
fake_book	Harris	Novel
Lincoln In The Bardo	Saunders	Novel

```

mysql> SELECT title, author_lname,
-> CASE
-> WHEN Title LIKE "%stories%" THEN "Short Stories"
-> WHEN Title LIKE "%Heartbreaking%" OR Title LIKE "%Just Kids%" THEN "Memoir"
-> ELSE "Novel"
-> END AS Type
-> FROM Books;
+-----+-----+-----+
| title          | author_lname | Type   |
+-----+-----+-----+
| The Namesake    | Lahiri      | Novel  |
| Norse Mythology | Gaiman      | Novel  |
| American Gods   | Gaiman      | Novel  |
| Interpreter of Maladies | Lahiri      | Novel  |
| A Hologram for the King: A Novel | Eggers      | Novel  |
| The Circle      | Eggers      | Novel  |
| The Amazing Adventures of Kavalier & Clay | Chabon      | Novel  |
| Just Kids       | Smith       | Memoir |
| A Heartbreaking Work of Staggering Genius | Eggers      | Memoir |
| Coraline        | Gaiman      | Novel  |
| What We Talk About When We Talk About Love: Stories | Carver      | Short Stories |
| Where I'm Calling From: Selected Stories | Carver      | Short Stories |
| White Noise     | DeLillo     | Novel  |
| Cannery Row     | Steinbeck   | Novel  |
| Oblivion: Stories | Foster Wallace | Short Stories |
| Consider the Lobster | Foster Wallace | Novel  |
| 10% Happier      | Harris      | Novel  |
| fake_book        | Harris      | Novel  |
| Lincoln In The Bardo | Saunders   | Novel  |
+-----+-----+-----+
19 rows in set (0.00 sec)

```

```

SELECT title, author_lname,
CASE
  WHEN Title LIKE "%stories%" THEN "Short Stories"
  WHEN Title LIKE "%Heartbreaking%" OR Title LIKE "%Just Kids%" THEN "Memoir"
  ELSE "Novel"
END AS Type
FROM Books;

```

Bonus: Make This Happen

author_fname	author_lname	COUNT
Jhumpa	Lahiri	2 books
Neil	Gaiman	3 books
Dave	Eggers	3 books
Michael	Chabon	1 book
Patti	Smith	1 book
Raymond	Carver	2 books
Don	DeLillo	1 book
John	Steinbeck	1 book
David	Foster Wallace	2 books
Dan	Harris	1 book
Freida	Harris	1 book
George	Saunders	1 book

```

mysql> SELECT author_fname , author_lname ,
-> CASE
-> WHEN COUNT(author_lname) = 1 THEN "1 book"
-> WHEN COUNT(author_lname) = 2 THEN "2 books"
-> WHEN COUNT(author_lname) = 3 THEN "3 books"
-> END AS COUNT
-> FROM Books GROUP BY 2,1;
+-----+-----+-----+
| author_fname | author_lname | COUNT |
+-----+-----+-----+
| Jhumpa     | Lahiri      | 2 books |
| Neil       | Gaiman      | 3 books |
| Dave       | Eggers      | 3 books |
| Michael    | Chabon      | 1 book  |
| Patti      | Smith       | 1 book  |
| Raymond   | Carver      | 2 books |
| Don        | DeLillo     | 1 book  |
| John       | Steinbeck   | 1 book  |
| David      | Foster Wallace | 2 books |
| Dan        | Harris      | 1 book  |
| Freida    | Harris      | 1 book  |
| George    | Saunders    | 1 book  |
+-----+-----+-----+
12 rows in set (0.00 sec)

```

```

mysql> SELECT author_fname , author_lname ,
-> CASE
-> WHEN COUNT(*) = 1 THEN "1 book"
-> WHEN COUNT(*) = 2 THEN "2 books"
-> WHEN COUNT(*) = 3 THEN "3 books"
-> END AS COUNT
-> FROM Books GROUP BY 2,1;
+-----+-----+-----+
| author_fname | author_lname | COUNT |
+-----+-----+-----+
| Jhumpa     | Lahiri      | 2 books |
| Neil       | Gaiman      | 3 books |
| Dave       | Eggers      | 3 books |
| Michael    | Chabon      | 1 book  |
| Patti      | Smith       | 1 book  |
| Raymond   | Carver      | 2 books |
| Don        | DeLillo     | 1 book  |
| John       | Steinbeck   | 1 book  |
| David      | Foster Wallace | 2 books |
| Dan        | Harris      | 1 book  |
| Freida    | Harris      | 1 book  |
| George    | Saunders    | 1 book  |
+-----+-----+-----+
12 rows in set (0.00 sec)

```

```

SELECT author_fname , author_lname,
CASE
    WHEN COUNT(author_lname) = 1 THEN "1 book"
    WHEN COUNT(author_lname) = 2 THEN "2 books"
    WHEN COUNT(author_lname) = 3 THEN "3 books"
END AS COUNT
FROM Books GROUP BY 2,1;

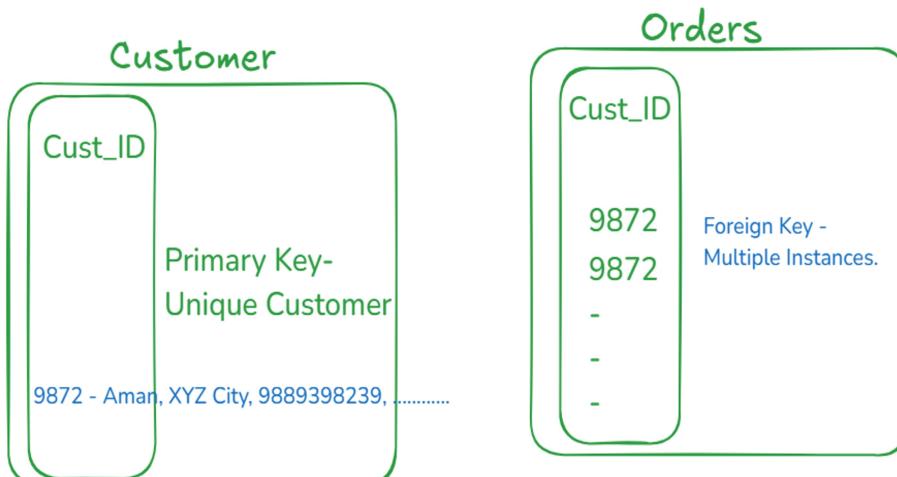
```

```

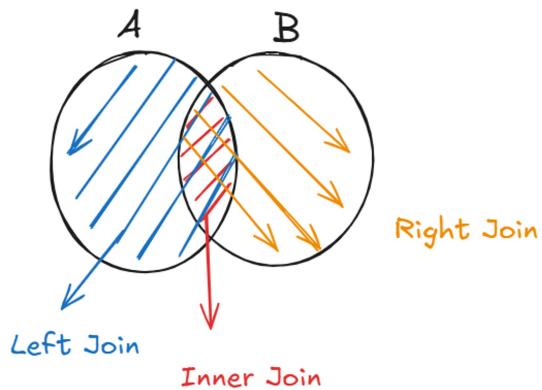
SELECT author_fname , author_lname,
CASE
    WHEN COUNT(*) = 1 THEN "1 book"
    WHEN COUNT(*) = 2 THEN "2 books"
    WHEN COUNT(*) = 3 THEN "3 books"
END AS COUNT
FROM Books GROUP BY 2,1;

```

Relationship & Joins



Joins - Merging 2 or more table based on some common column.
One Table has a Primary Key that connects with another table having Foreign Key.



Relationship

1:1 Relationship.

1: $*$ Relationship.

$*$:1 Relationship.

$*$: $*$ Relationship.