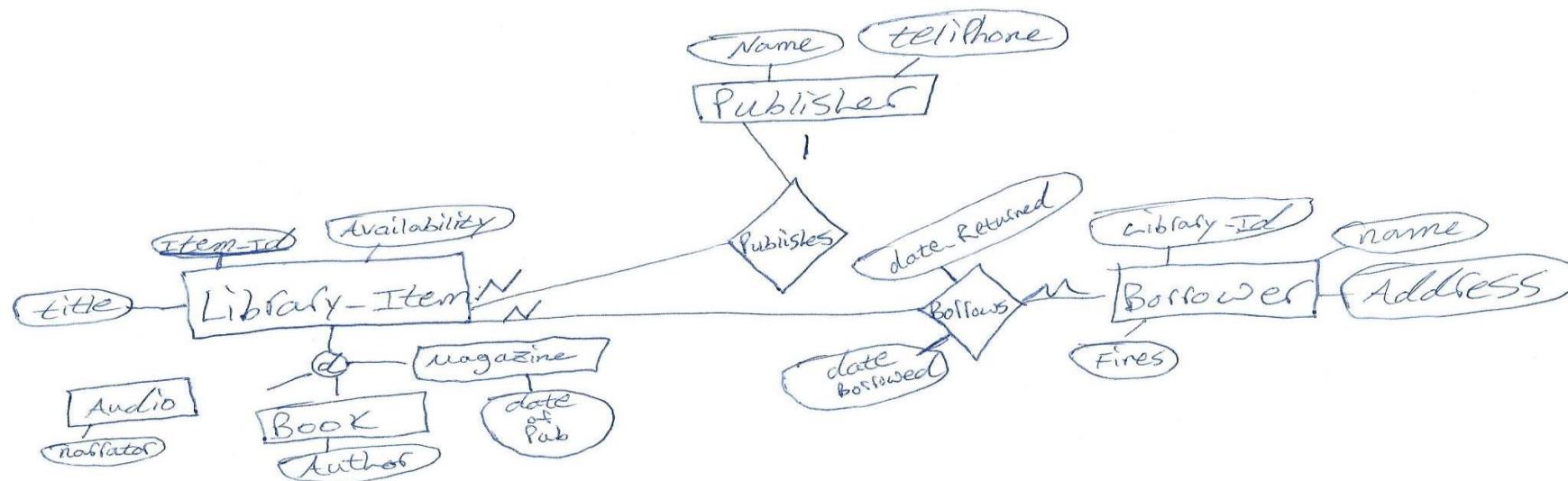


Simple Library DB

By John Benjamin Mitchell

Student ID T00511486

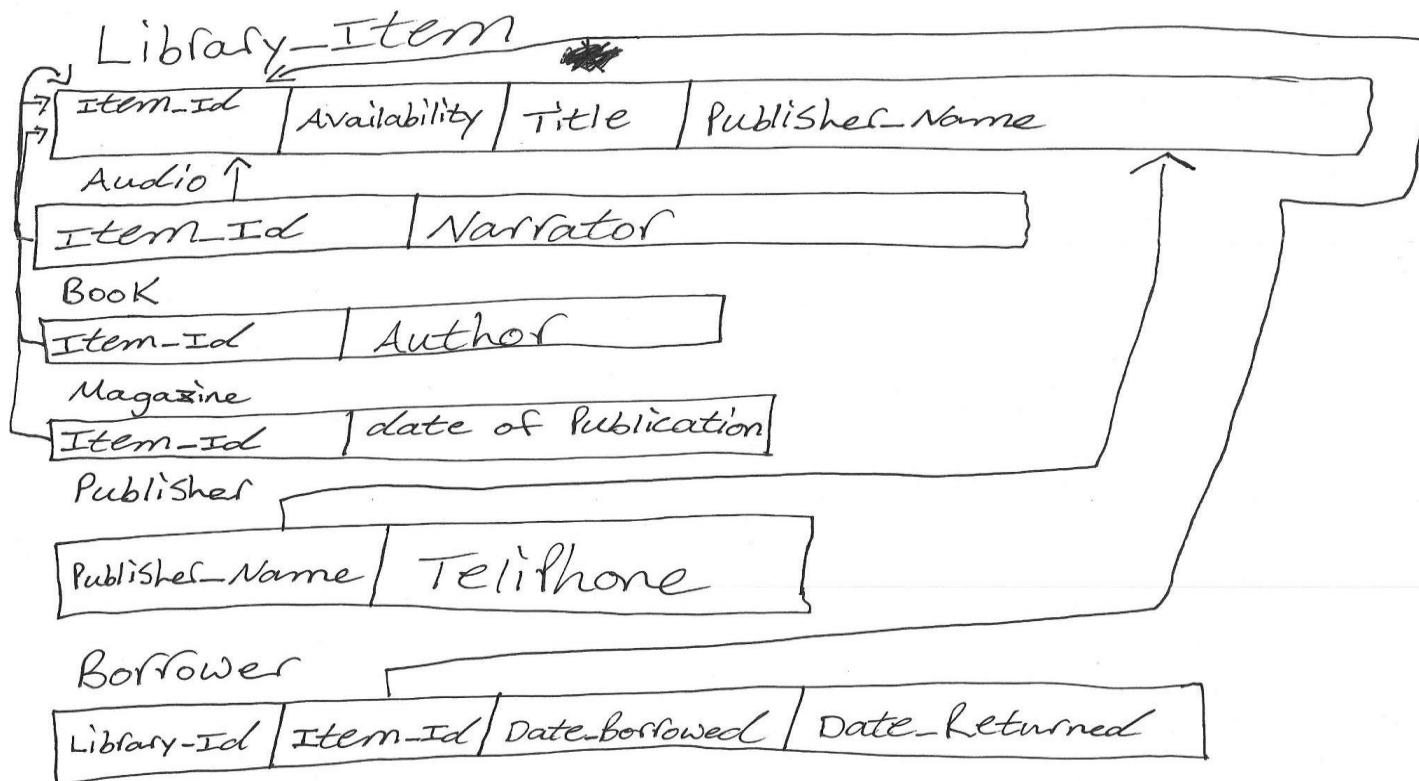
Here is the EER Diagram for My Library DB



For my Project I chose to create a simple MySQL Library DB. The six entities within my library database are Library_Item, Book, Audio, Magazine, Publisher, and Borrower. Library_Item is the super class while the entities Book, Audio, and Magazine are it's subclasses. In short Book, Audio, and Magazine are all Library_Items.

In addition Book, Audio, and Magazine are related to Library_Item via Item_Id, which is the primary key for each. In the same way Publisher is related to Library_Item via Publisher_Name.

Here is the Relationship Schema for My DB



The restraints I put on my tables' entities were mostly not null. But in the case of the tables Magazine and Borrower one or more of the entities are of the type DATE. Therefor I had to use the TO DATE function to get my dates in the desired format. This is a restraint because the entity's of type DATE will only accept numbers in a specific format.

The Construction of My Library DB

Create and insert with Sample Data

```
drop table Library_Item cascade constraints;
```

```
create table Library_Item (
```

```
    Title      varchar2(50) not null,
```

```
    Item_Id   number(9) not null,
```

```
    Publisher_Name varchar2(30) not null,
```

```
    Availability     varchar2(4),
```

```
    primary key (Item_Id));
```

```
insert into Library_Item values('Moby Dick', 171095640, 'Black and White Classics', 'in');
```

```
insert into Library_Item values('The Complete Fiction', 171345876, 'Benediction Classics', 'out');
```

```
insert into Library_Item values('Blood Of Elves', 171600567, 'Orbit', 'in');
```

```
insert into Library_Item values('The Hitchhikers Guide to the Galaxy', 171700987, 'Orion', 'out');
```

```
insert into Library_Item values('To Have and Have Not', 171500556, 'Scribner', 'in');
```

```
insert into Library_Item values('Fight Club', 171777666, 'Recorded Books', 'in');
```

```
insert into Library_Item values('The Old Man and the Sea', 171899987, 'Simon and Schuster Audio', 'out');
```

```
insert into Library_Item values('Great Expectations', 171222333, 'Inc. Blackstone Audio', 'in');
```

```
insert into Library_Item values('To Kill a Mockingbird', 171999000, 'HarperAudio', 'out');
```

```
insert into Library_Item values('The Grapes of Wrath', 171010654, 'Penguin Audio', 'in');

insert into Library_Item values('National Geographic', 171899098, 'National Geographic Society', 'out');
insert into Library_Item values('TIME', 171666545, 'Henry Luce', 'in');
insert into Library_Item values('Better Homes and Gardens', 171667778, 'Meredith Corporation', 'in');
insert into Library_Item values('People', 171990075, 'Time Inc', 'out');
insert into Library_Item values('Entertainment Weekly', 171116749, 'Meredith Corporation', 'in');
```

```
drop table Audio cascade constraints;
```

```
create table Audio (
    Narrator varchar2(30) not null,
    Item_Id  number(9) not null,
    primary key (Item_Id));
```

```
insert into Audio values('Jim Colby', 171777666);
insert into Audio values('Donald Sutherland', 171899987);
insert into Audio values('Simon Prebble', 171222333);
insert into Audio values('Sissy Spacek', 171999000);
insert into Audio values('Dylan Baker', 171010654);
```

```
drop table Audio cascade constraints;
create table Audio (
    Narrator varchar2(30) not null,
    Item_Id  number(9) not null,
    primary key (Item_Id));
```

```
insert into Audio values('Jim Colby', 171777666);
insert into Audio values('Donald Sutherland', 171899987);
insert into Audio values('Simon Prebble', 171222333);
insert into Audio values('Sissy Spacek', 171999000);
insert into Audio values('Dylan Baker', 171010654);
```

```
drop table Book cascade constraints;
create table Book (
    Author   varchar2(30) not null,
    Item_Id  number(9) not null,
    primary key (Item_Id));
```

```
insert into Book values('H.P.Lovecraft', 171345876);
insert into Book values('Herman Melville', 171095640);
insert into Book values('Andrzej Sapkowski', 171600567);
insert into Book values('Douglas Adams', 171700987);
insert into Book values('Ernest Hemingway', 171500556);
```

```
drop table Magazine cascade constraints;
create table Magazine (
    Item_Id  number(9) not null,
    Publication_Date  date not null,
    primary key (Item_Id));

insert into Magazine values(171899098, TO_DATE('04012019', 'MM/DD/YYYY'));
insert into Magazine values(171666545, TO_DATE('01012000', 'MM/DD/YYYY'));
insert into Magazine values(171667778, TO_DATE('02131999', 'MM/DD/YYYY'));
insert into Magazine values(171990075, TO_DATE('12212014', 'MM/DD/YYYY'));
insert into Magazine values(171116749, TO_DATE('11112011', 'MM/DD/YYYY'));
```

```
drop table Publisher cascade constraints;
create table Publisher (
    Publisher_Name varchar2(30) not null,
    Teliphonenumber(15) not null);

insert into Publisher values('Black and White Classics', 5014567890);
insert into Publisher values('Benediction Classics', 5011234567);
insert into Publisher values('Orbit', 5014556778);
insert into Publisher values('Orion', 5018941273);
insert into Publisher values('Scribner', 5017789233);

insert into Publisher values('Recorded Books', 5016667543);
insert into Publisher values('Simon and Schuster Audio', 5015565654);
insert into Publisher values('Inc. Blackstone Audio', 5018887865);
insert into Publisher values('HarperAudio', 5017789233);
insert into Publisher values('Penguin Audio', 5017723345);

insert into Publisher values('National Geographic Society', 5018887233);
insert into Publisher values('TIME', 5015667217);
insert into Publisher values('Better Homes and Gardens', 5015544321);
insert into Publisher values('People', 5016823333);
insert into Publisher values('Entertainment Weekly', 5017787544);
```

```
drop table Borrower cascade constraints;
create table Borrower (
    Library_Id      number(10) not null,
    Item_Id   number(9),
    Date_Borrowed DATE,
    Date_Returned DATE not null);

insert into Borrower values(100160, 171095640, TO_DATE('10172019', 'MM/DD/YYYY'), TO_DATE('10272019',
'MM/DD/YYYY'));
insert into Borrower values(100170, 171095640, TO_DATE('09142019', 'MM/DD/YYYY'), TO_DATE('09242019',
'MM/DD/YYYY'));
insert into Borrower values(100180, 171777666, TO_DATE('08122019', 'MM/DD/YYYY'), TO_DATE('09122019',
'MM/DD/YYYY'));
insert into Borrower values(100190, 171700987, TO_DATE('08222019', 'MM/DD/YYYY'), TO_DATE('08272019',
'MM/DD/YYYY'));
insert into Borrower values(100110, 171500556, TO_DATE('12122019', 'MM/DD/YYYY'), TO_DATE('12222019',
'MM/DD/YYYY'));
```

Select * from Library_Item;

Select * from Book;

Select * From Borrower;

Select * from Publisher;

Select * from Magazine;

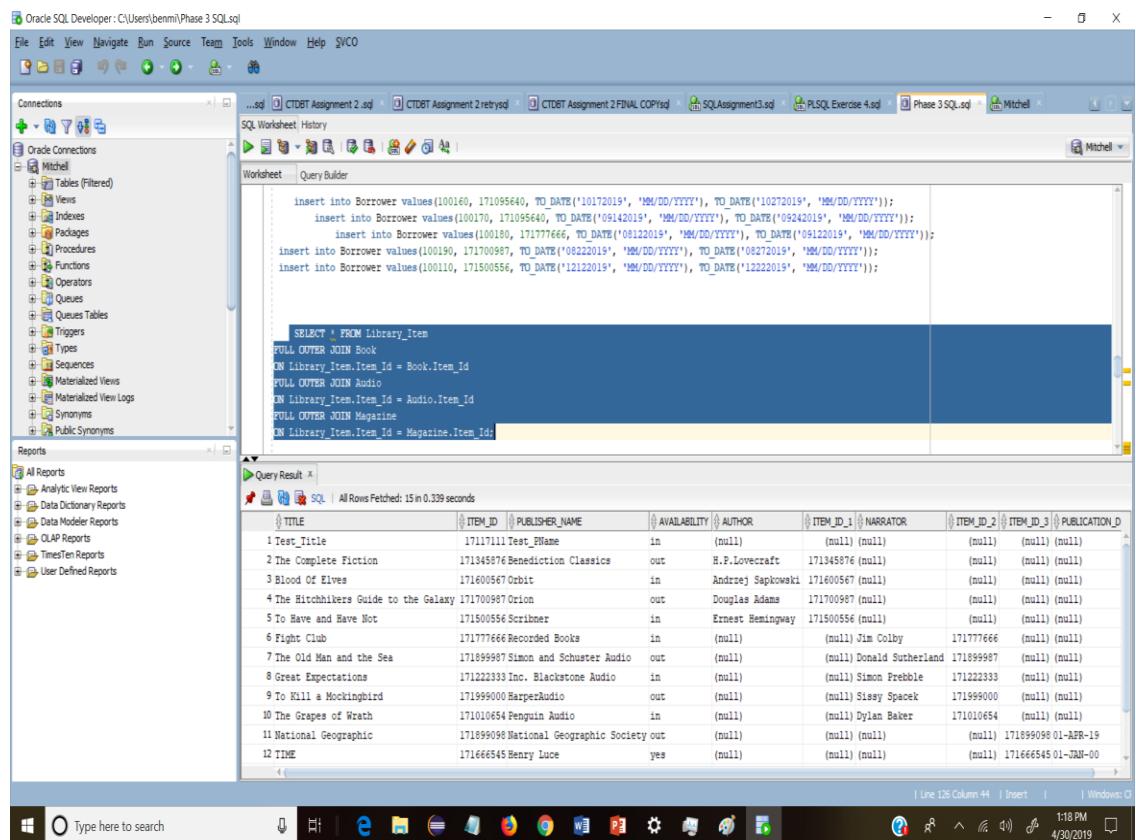
Select * from Audio;

My First Query: Using FULL OUTER JOIN to Combine 2 or More Tables

Query to be executed

- SELECT * FROM Library_Item
- FULL OUTER JOIN Book
- ON Library_Item.Item_Id = Book.Item_Id
- FULL OUTER JOIN Audio
- ON Library_Item.Item_Id = Audio.Item_Id
- FULL OUTER JOIN Magazine
- ON Library_Item.Item_Id = Magazine.Item_Id;

After execution



The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab contains the executed query:

```
insert into Borrower values(100160, 171095640, TO_DATE('10172019', 'MM/DD/YYYY'), TO_DATE('10272019', 'MM/DD/YYYY'));
insert into Borrower values(100170, 171055640, TO_DATE('09142019', 'MM/DD/YYYY'), TO_DATE('09242019', 'MM/DD/YYYY'));
insert into Borrower values(100180, 171777666, TO_DATE('08122019', 'MM/DD/YYYY'), TO_DATE('09122019', 'MM/DD/YYYY'));
insert into Borrower values(100190, 171700987, TO_DATE('08222019', 'MM/DD/YYYY'), TO_DATE('08272019', 'MM/DD/YYYY'));
insert into Borrower values(100110, 171500556, TO_DATE('12122019', 'MM/DD/YYYY'), TO_DATE('12222019', 'MM/DD/YYYY'));

SELECT * FROM Library_Item
FULL OUTER JOIN Book
ON Library_Item.Item_Id = Book.Item_Id
FULL OUTER JOIN Audio
ON Library_Item.Item_Id = Audio.Item_Id
FULL OUTER JOIN Magazine
ON Library_Item.Item_Id = Magazine.Item_Id;
```

The 'Query Result' tab displays the resulting data from the query:

ITEM_ID	PUBLISHER_NAME	AVAILABILITY	AUTHOR	ITEM_ID_1	NARRATOR	ITEM_ID_2	ITEM_ID_3	PUBLICATION_DATE
1 Test_Title	17117111Test_EName	in	(null)	(null)	(null)	(null)	(null)	(null)
2 The Complete Fiction	171345976Benediction Classics	out	H.P.Lovecraft	171345876 (null)	(null)	(null)	(null)	(null)
3 Blood Of Elves	171600567Orbit	in	Andrzej Sapkowski	171600567 (null)	(null)	(null)	(null)	(null)
4 The Hitchhikers Guide to the Galaxy	171700987Orion	out	Douglas Adams	171700987 (null)	(null)	(null)	(null)	(null)
5 To Have and Have Not	171500556Scribner	in	Ernest Hemingway	171500556 (null)	(null)	(null)	(null)	(null)
6 Fight Club	171777666Recorded Books	in	(null)	(null)	Jim Colby	171777666 (null)	(null)	(null)
7 The Old Man and the Sea	171899987Sims and Schuster Audio	out	(null)	(null)	Donald Sutherland	171899987 (null)	(null)	(null)
8 Great Expectations	171223333Inc. Blackstone Audio	in	(null)	(null)	Simon Prebble	171223333 (null)	(null)	(null)
9 To Kill a Mockingbird	171999000HarperAudio	out	(null)	(null)	Sissy Spacek	171999000 (null)	(null)	(null)
10 The Grapes of Wrath	171010654Penguin Audio	in	(null)	(null)	Dylan Baker	171010654 (null)	(null)	(null)
11 National Geographic	171899098National Geographic Society	out	(null)	(null)	(null)	(null)	171899098 01-APR-19	(null)
12 TIME	171666545Henry Luce	yes	(null)	(null)	(null)	(null)	(null)	171666545 01-JAN-00

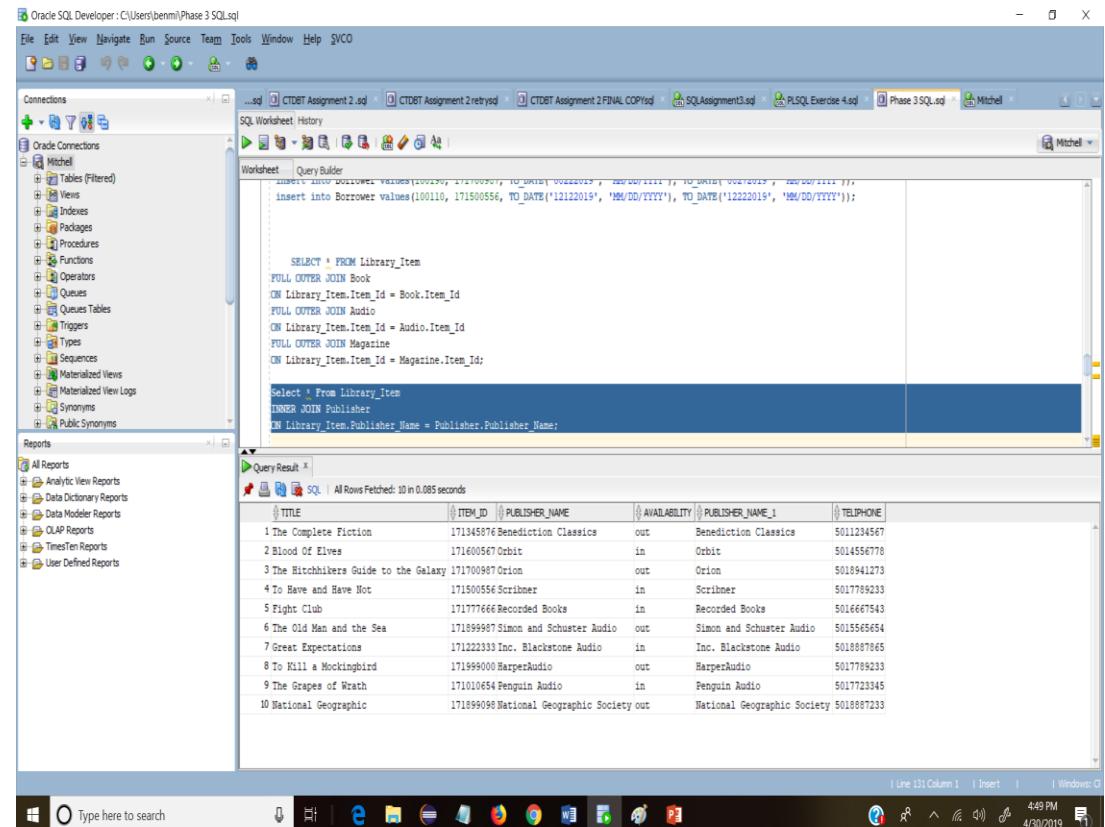
By using FULL OUTER JOIN everything in the two tables that share the same Item_Id number are merged together into one table. But because I used FULL OUTER JOIN everything from the two tables is displayed even if they don't have a matching Item_Id number between them. If the values are missing the program inserts the value null into the newly joined tables.

My Second Query: Using INNER JOIN to Combine two Tables

Query to be executed

- Select * From Library_Item
- INNER JOIN Publisher
- ON
Library_Item.Publisher_Name =
Publisher.Publisher_Name;

After execution



The screenshot shows the Oracle SQL Developer interface. The 'Connections' sidebar is open, showing a connection named 'Mitchel'. The 'Worksheet' tab is active, displaying a query in the 'Query Builder' pane:

```
insert into Borrower values(100230, 17170050, TO_DATE('01/01/2015', 'MM/DD/YYYY'), TO_DATE('01/01/2015', 'MM/DD/YYYY'));
insert into Borrower values(100110, 171500556, TO_DATE('12/12/2015', 'MM/DD/YYYY'), TO_DATE('12/12/2015', 'MM/DD/YYYY'));

SELECT * FROM Library_Item
FULL OUTER JOIN Book
ON Library_Item.Item_Id = Book.Item_Id
FULL OUTER JOIN Audio
ON Library_Item.Item_Id = Audio.Item_Id
FULL OUTER JOIN Magazine
ON Library_Item.Item_Id = Magazine.Item_Id;

Select * From Library_Item
INNER JOIN Publisher
ON Library_Item.Publisher_Name = Publisher.Publisher_Name;
```

The 'Query Result' pane below shows the results of the query, listing 10 rows of data from the Library_Item table, joined with the Book, Audio, and Magazine tables, and further joined with the Publisher table. The columns are: TITLE, ITEM_ID, PUBLISHER_NAME, AVAILABILITY, PUBLISHER_NAME_1, and TELEPHONE.

ITEM_ID	PUBLISHER_NAME	AVAILABILITY	PUBLISHER_NAME_1	TELEPHONE
171345976	Benediction Classics	out	Benediction Classics	5011234567
171600567	Orbit	in	Orbit	501456778
171500987	Orion	out	Orion	5018541273
171777666	Scribner	in	Scribner	5017789233
171500556	Recorded Books	in	Recorded Books	5016667543
171222333	Simon and Schuster Audio	out	Simon and Schuster Audio	5015565654
171999000	Inc. Blackstone Audio	in	Inc. Blackstone Audio	5018987465
171010654	HarperAudio	out	HarperAudio	5017789233
171889909	Penguin Audio	in	Penguin Audio	5017723345
171889909	National Geographic Society	out	National Geographic Society	5018887233

By using the INNER JOIN everything within the two tables, that share the same Item_Id number is merged together to form a single table. Anything from the two tables that don't share the same Item_Id is not populated in the new table. Unlike the FULL OUTER JOIN method which puts everything in the joined table and marks missing variables by assigning null values.

My Third Query: a Transaction that Updates Two Tables

Before execution of update on Library_Item

The screenshot shows the Oracle SQL Developer interface with two panes. The left pane displays the 'Connections' tree, showing a single connection named 'Mitchell'. The right pane shows a 'Worksheet' tab with a SQL script. The script includes a 'COMMIT;' statement, a multi-table query involving 'Narrator', 'Book', and 'Author' from the 'Audio' table, and a series of 'Select *' statements for 'Library_Item', 'Book', 'Borrower', 'Publisher', 'Magazine', and 'Audio'. Below the worksheet is a 'Script Output' tab showing the results of the 'Library_Item' select query. The results are as follows:

ITEM_ID	PUBLISHER_NAME	AVAILABILITY	
1	Moby Dick	171095640 Black and White Classics	in
2	The Complete Fiction	171345876 Benediction Classics	out
3	Blood Of Elves	171400567 Orbit	in
4	The Hitchhikers Guide to the Galaxy	171700987 Orion	out
5	To Have and Have Not	171500556 Scribner	in
6	Fight Club	171777666 Recorded Books	in
7	The Old Man and the Sea	171899987 Simon and Schuster Audio	out
8	Great Expectations	171222333 Inc. Blackstone Audio	in
9	To Kill a Mockingbird	171999000 HarperAudio	out
10	The Grapes of Wrath	171101054 Penguin Audio	in
11	National Geographic	171899098 National Geographic Society	out
12	TIME	171666545 Henry Luce	yes
13	Better Homes and Gardens	171667779 Meredith Corporation	in

Before execution of update on Book

The screenshot shows the Oracle SQL Developer interface with two panes. The left pane displays the 'Connections' tree, showing a single connection named 'Mitchell'. The right pane shows a 'Worksheet' tab with a SQL script. The script includes a 'COMMIT;' statement, a multi-table query involving 'Narrator', 'Book', and 'Author' from the 'Audio' table, and a series of 'Select *' statements for 'Library_Item', 'Book', 'Borrower', 'Publisher', 'Magazine', and 'Audio'. Below the worksheet is a 'Script Output' tab showing the results of the 'Book' select query. The results are as follows:

AUTHOR	ITEM_ID
1 H.P.Lovecraft	171345876
2 Andrzej Sapkowski	171600567
3 Douglas Adams	171700987
4 Ernest Hemingway	171500556

Query 3 continued

After execution of update on Library_Item

The screenshot shows the Oracle SQL Developer interface with a query window containing the following code:

```
COMMIT;  
  
SELECT Narrator  
FROM Audio  
UNION ALL  
SELECT Author  
FROM Book;  
  
Select * from Library_Item;  
Select * from Book;  
Select * From Borrower;  
Select * from Publisher;  
Select * from Magazine;  
Select * from Audio;
```

The results of the query are displayed in a table titled "Script Output". The table has columns: TITLE, ITEM_ID, PUBLISHER_NAME, and AVAILABILITY. The first row, which was updated, is highlighted with a yellow border.

TITLE	ITEM_ID	PUBLISHER_NAME	AVAILABILITY
Random Title	171095840	Black and White Classics	in
2 The Complete Fiction	171345876	Benediction Classics	out
3 Blood of Elves	171600567	Oorbit	in
4 The Hitchhikers Guide to the Galaxy	171700987	Orion	out
5 To Have and Have Not	171500556	Scribner	in
6 Fight Club	171776666	Recorded Books	in
7 The Old Man and the Sea	171899987	Simon and Schuster Audio	out
8 Great Expectations	171222333	Inc. Blackstone Audio	in
9 To Kill a Mockingbird	171999000	HarperAudio	out
10 The Grapes of Wrath	171010654	Penguin Audio	in
11 National Geographic	171899098	National Geographic Society	out
12 TIME	171666545	Henry Luce	yes
13 Better Homes and Gardens	171667778	Meredith Corporation	in

After execution of update on Book

The screenshot shows the Oracle SQL Developer interface with a query window containing the following code:

```
COMMIT;  
  
SELECT Narrator  
FROM Audio  
UNION ALL  
SELECT Author  
FROM Book;  
  
Select * from Library_Item;  
Select * from Book;  
Select * From Borrower;  
Select * from Publisher;  
Select * from Magazine;  
Select * from Audio;
```

The results of the query are displayed in a table titled "Script Output". The table has columns: AUTHOR and ITEM_ID. The first row, which was updated, is highlighted with a yellow border.

AUTHOR	ITEM_ID
Random Author	171095840
2 H.P.Lovecraft	171345876
3 Andrzej Sapkowski	171600567
4 Douglas Adams	171700987
5 Ernest Hemingway	171500556

Third Query Code

- START TRANSACTION;
- UPDATE Library_Item SET Title = 'Random Title'
WHERE Item_Id = 171095640;
- UPDATE Book SET Author = 'Random Author'
WHERE Item_Id = 171095640;
- COMMIT;

My Fourth Query: a Transaction that Deletes from Two Tables

- START TRANSACTION;
- DELETE Library_Item WHERE Item_Id = 171095640;
- DELETE Book WHERE Item_Id = 171095640;
- COMMIT;

Query 4

Before DELETE on Library_Item

The screenshot shows the Oracle SQL Developer interface with two panes. The top pane displays a SQL Worksheet containing a query to select data from the Library_Item, Book, Borrower, Publisher, Magazine, and Audio tables. The bottom pane shows the results of this query, listing various books and their details. The status bar at the bottom indicates the query took 0.06 seconds to execute.

```
COMMIT;

SELECT Narrator
FROM Audio
UNION ALL
SELECT Author
FROM Book;

Select * from Library_Item;
Select * from Book;
Select * from Borrower;
Select * from Publisher;
Select * from Magazine;
Select * from Audio;
```

ITEM_ID	PUBLISHER_NAME	AVAILABILITY
1 Moby Dick	171095640 Black and White Classics	in
2 The Complete Fiction	171345876 Benediction Classics	out
3 Blood Of Elves	171600567 Orbit	in
4 The Hitchhiker's Guide to the Galaxy	171700897 Orion	out
5 To Have and Have Not	171500556 Scribner	in
6 Fight Club	171776666 Recorded Books	in
7 The Old Man and the Sea	171899907 Simon and Schuster Audio	out
8 Great Expectations	171223333 Inc. Blackstone Audio	in
9 To Kill a Mockingbird	171999000 HarperAudio	out
10 The Grapes of Wrath	171010654 Penguin Audio	in
11 National Geographic	171899098 National Geographic Society	out
12 TIME	17166545 Henry Luce	yes
13 Better Homes and Gardens	171667778 Meredith Corporation	in

Before DELETE ON Book

The screenshot shows the Oracle SQL Developer interface with two panes. The top pane displays a SQL Worksheet containing a query to select data from the Library_Item, Book, Borrower, Publisher, Magazine, and Audio tables. The bottom pane shows the results of this query, listing authors and their corresponding item IDs. The status bar at the bottom indicates the query took 0.033 seconds to execute.

```
COMMIT;

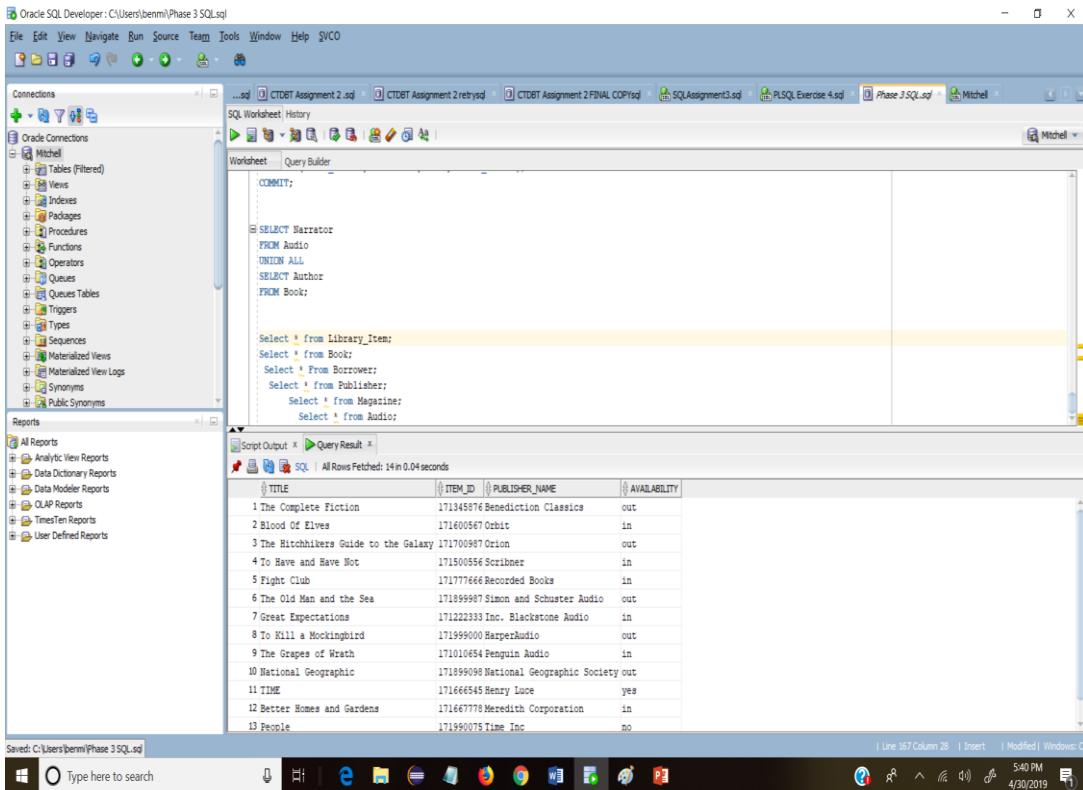
SELECT Narrator
FROM Audio
UNION ALL
SELECT Author
FROM Book;

Select * from Library_Item;
Select * from Book;
Select * from Borrower;
Select * from Publisher;
Select * from Magazine;
Select * from Audio;
```

AUTHOR	ITEM_ID
H.P. Lovecraft	171345876
Berman Melville	171095640
Andrzej Sapkowski	171600567
Douglas Adams	171700897
Ernest Hemingway	171500556

Query 4

After DELETE on Library_Item



Oracle SQL Developer : C:\Users\benni\Phase 3 SQL.sql

File Edit View Navigate Run Source Team Tools Window Help SVCO

Connections Mitchell

Worksheet Query Builder

```
COMMIT;

SELECT Narrator
FROM Audio
UNION ALL
SELECT Author
FROM Book;
```

Select * from Library_Item;

```
Select * from Book;
Select * From Borrower;
Select * from Publisher;
Select * from Magazine;
Select * from Audio;
```

Script Output | Query Result

All Rows Fetched: 14 in 0.04 seconds

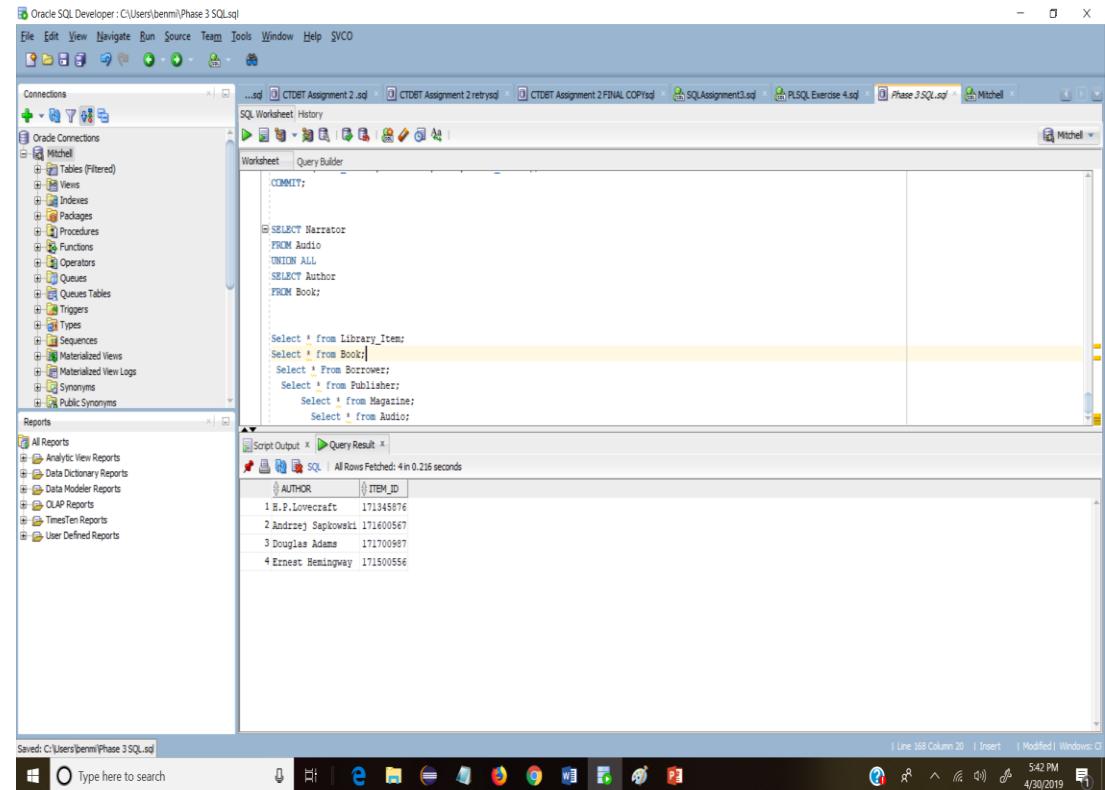
ITEM_ID	PUBLISHER_NAME	AVAILABILITY
1 The Complete Fiction	171345876 Benedictine Classics	out
2 Blood Of Elves	171600567 Orbit	in
3 The Hitchhikers Guide to the Galaxy	171700967 Orion	out
4 To Have and Have Not	171500556 Scribner	in
5 Fight Club	171776666 Recorded Books	in
6 The Old Man and the Sea	171899967 Simon and Schuster Audio	out
7 Great Expectations	171222333 Inc. Blackstone Audio	in
8 To Kill a Mockingbird	171990000 HarperAudio	out
9 The Grapes of Wrath	171010654 Penguin Audio	in
10 National Geographic	171899098 National Geographic Society	out
11 TIME	171666545 Henry Luce	yes
12 Better Homes and Gardens	171667778 Meredith Corporation	in
13 People	171990075 Time Inc	no

Saved: C:\Users\benni\Phase 3 SQL.sql

Line 167 Column 28 | Insert | Modified | Windows | O

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After DELETE on Book



Oracle SQL Developer : C:\Users\benni\Phase 3 SQL.sql

File Edit View Navigate Run Source Team Tools Window Help SVCO

Connections Mitchell

Worksheet Query Builder

```
COMMIT;

SELECT Narrator
FROM Audio
UNION ALL
SELECT Author
FROM Book;
```

Select * from Library_Item;

```
Select * from Book;
Select * From Borrower;
Select * from Publisher;
Select * from Magazine;
Select * from Audio;
```

Script Output | Query Result

All Rows Fetched: 4 in 0.216 seconds

AUTHOR	ITEM_ID
1 H.P.Lovecraft	171345876
2 Andrzej Sapkowski	171600567
3 Douglas Adams	171700967
4 Ernest Hemingway	171500556

Saved: C:\Users\benni\Phase 3 SQL.sql

Line 168 Column 20 | Insert | Modified | Windows | O

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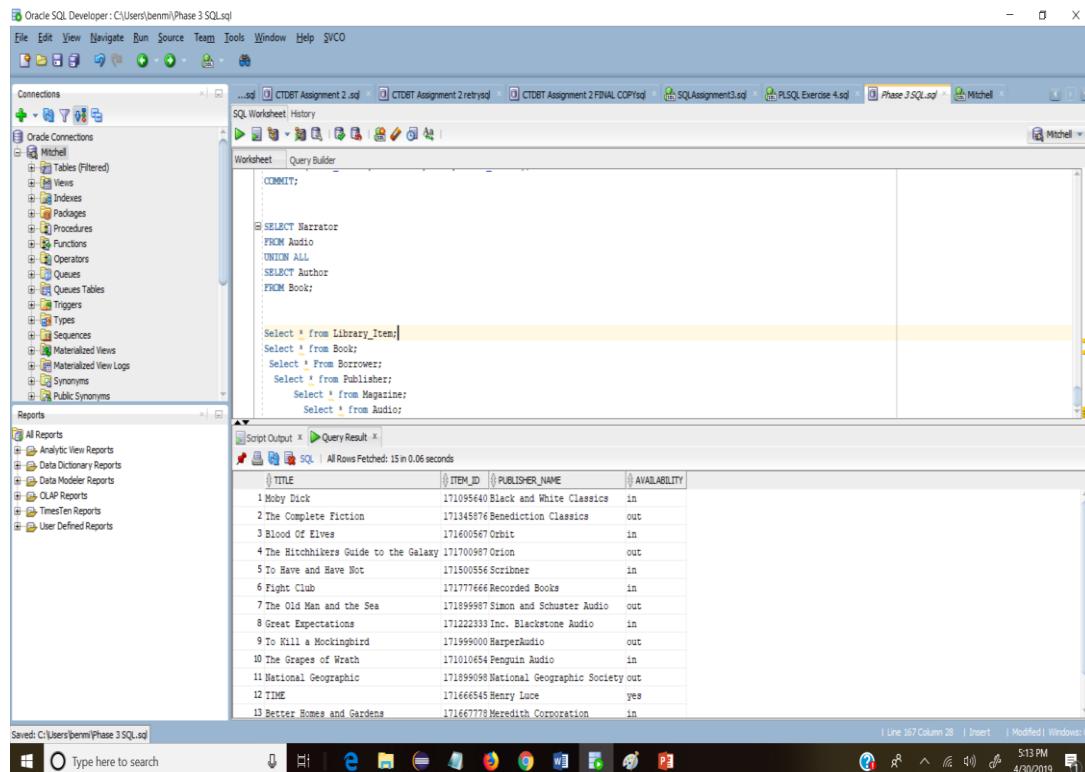
Notice that Moby Dick is now missing as well as Herman Melville.

Query 5: Update that changes the value of the Availability column within the table Library_Item to its opposite value

- `update Library_Item set Availability=case when Availability='in' then 'out' else 'in' end where Availability in ('in','out');`

Query 5

Before Update on Library_Item



Oracle SQL Developer : C:\Users\benm\Phase 3 SQL.sql

File Edit View Navigate Run Source Team Tools Window Help SVCO

Connections Mitchell

SQL Worksheet History

Worksheet Query Builder

```
COMMIT;

SELECT Narrator
FROM Audio
UNION ALL
SELECT Author
FROM Book;
```

Select * from Library_Item;

```
Select * from Book;
Select * from Borrower;
Select * from Publisher;
Select * from Magazine;
Select * from Audio;
```

Script Output | Query Result | SQL | All Rows Fetched: 15 in 0.06 seconds

ITEM_ID	PUBLISHER_NAME	AVAILABILITY
1 Moby Dick	171095640 Black and White Classics	in
2 The Complete Fiction	171345876 Benedictine Classics	out
3 Blood Of Elves	171600567 Orbit	in
4 The Hitchhikers Guide to the Galaxy	171700987 Orion	out
5 To Have and Have Not	171500556 Scribner	in
6 Fight Club	171776666 Recorded Books	in
7 The Old Man and the Sea	171899897 Simon and Schuster Audio	out
8 Great Expectations	171222333 Inc. Blackstone Audio	in
9 To Kill a Mockingbird	171999000 HarperAudio	out
10 The Grapes of Wrath	171010654 Penguin Audio	in
11 National Geographic	171899098 National Geographic Society	out
12 TIME	171666545 Henry Luce	yes
13 Better Homes and Gardens	171667778 Meredith Corporation	in

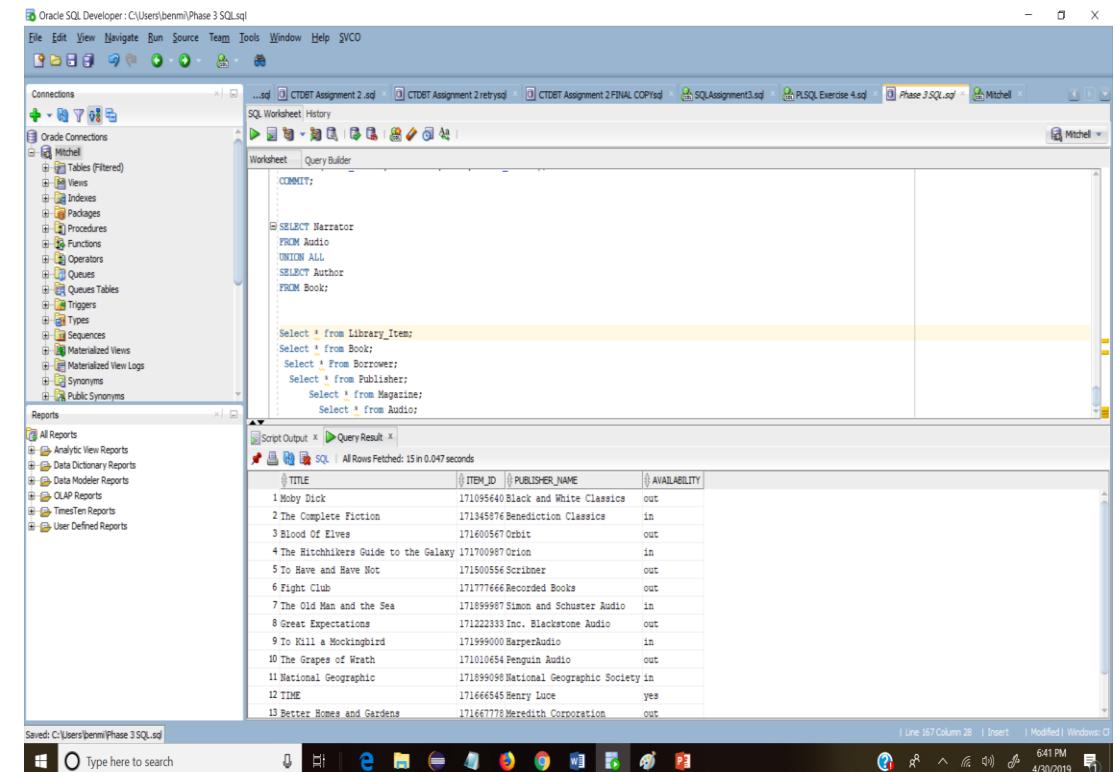
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Type here to search

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After Update on Library_Item



Oracle SQL Developer : C:\Users\benm\Phase 3 SQL.sql

File Edit View Navigate Run Source Team Tools Window Help SVCO

Connections Mitchell

SQL Worksheet History

Worksheet Query Builder

```
COMMIT;

SELECT Narrator
FROM Audio
UNION ALL
SELECT Author
FROM Book;
```

Select * from Library_Item;

```
Select * from Book;
Select * from Borrower;
Select * from Publisher;
Select * from Magazine;
Select * from Audio;
```

Script Output | Query Result | SQL | All Rows Fetched: 15 in 0.07 seconds

ITEM_ID	PUBLISHER_NAME	AVAILABILITY
1 Moby Dick	171095640 Black and White Classics	out
2 The Complete Fiction	171345876 Benedictine Classics	in
3 Blood Of Elves	171600567 Orbit	out
4 The Hitchhikers Guide to the Galaxy	171700987 Orion	in
5 To Have and Have Not	171500556 Scribner	out
6 Fight Club	171776666 Recorded Books	out
7 The Old Man and the Sea	171899897 Simon and Schuster Audio	in
8 Great Expectations	171222333 Inc. Blackstone Audio	out
9 To Kill a Mockingbird	171999000 HarperAudio	in
10 The Grapes of Wrath	171010654 Penguin Audio	out
11 National Geographic	171899098 National Geographic Society	in
12 TIME	171666545 Henry Luce	yes
13 Better Homes and Gardens	171667778 Meredith Corporation	out

Saved: C:\Users\benm\Phase 3 SQL.sql

Type here to search

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4/30/2019 6:41 PM

Query 6: Deletion Based off of a Date

- delete
- from Borrower
- where trunc(Date_Returned) <
to_date('01/01/2020','mm/dd/yyyy');
-

Notice that in query 6 the rows to be deleted are before the year 2020.
Seeing as how it is only the year 2019, everything gets deleted.

Query 6

Before DELETE on Borrower

The screenshot shows the Oracle SQL Developer interface. The connections pane shows a single connection named 'Mitchell'. The central workspace contains a SQL Worksheet with the following code:

```
COMMIT;  
  
SELECT Narrator  
FROM Audio  
UNION ALL  
SELECT Author  
FROM Book;  
  
Select * from Library_Item;  
Select * from Book;  
Select * From Borrower;  
Select * from Publisher;  
Select * from Magazine;  
Select * from Audio;
```

The 'Script Output' tab shows the results of the previous query:

LIBRARY_ID	ITEM_ID	DATE_BORROWED	DATE_RETURNED
1	100160	171095640	17-OCT-19
2	100170	171095640	14-SEP-19
3	100180	171777666	12-AUG-19
4	100190	171700987	22-AUG-19
5	100110	171500556	12-DEC-19

The status bar at the bottom indicates the script was saved on 4/30/2019 at 6:52 PM.

After Delete on Borrower

The screenshot shows the Oracle SQL Developer interface. The connections pane shows a single connection named 'Mitchell'. The central workspace contains a SQL Worksheet with the same code as the first screenshot. The 'Script Output' tab shows the results of the previous query:

LIBRARY_ID	ITEM_ID	DATE_BORROWED	DATE_RETURNED
1	100160	171095640	17-OCT-19
2	100170	171095640	14-SEP-19
3	100180	171777666	12-AUG-19
4	100190	171700987	22-AUG-19
5	100110	171500556	12-DEC-19

The status bar at the bottom indicates the script was saved on 4/30/2019 at 6:52 PM.

Query 7: Transaction that inserts new rows into two different tables

- START TRANSACTION;
- INSERT INTO Publisher (Publisher_Name, Telephone)
 - VALUES('Test Name', '5554443333');
- INSERT INTO Library_Item (Title, Item_Id, Availability, Publisher_name)
 - VALUES('Test_Title','17117111', 'in', 'Test_PName');
- COMMIT;

Query 7

Library_Item Before Insert

Oracle SQL Developer : C:\Users\benm\Phase 3 SQL.sql

File Edit View Navigate Run Source Team Tools Window Help SVCO

Connections Oracle Connections Mitchell Tables (Filtered) Views Indexes Packages Procedures Functions Operators Queues Queues Tables Triggers Types Sequences Materialized Views Materialized View Logs Synonyms Public Synonyms Reports All Reports Analytic View Reports Data Dictionary Reports Data Modeler Reports OLAP Reports TimenTen Reports User Defined Reports

SQL Worksheet History

Worksheet Query Builder

```
COMMIT;

SELECT Narrator
FROM Audio
UNION ALL
SELECT Author
FROM Book;
```

Select * from Library_Item;

Select * from Book;
Select * From Borrower;
Select * from Publisher;
Select * from Magazine;
Select * from Audio;

Script Output | Query Result | SQL | All Rows Fetched: 15 in 0.06 seconds

ITEM_ID	PUBLISHER_NAME	AVAILABILITY	
1	Hercy Dick	Black and White Classics	in
2	The Complete Fiction	Benediction Classics	out
3	Blood Of Elves	Oribit	in
4	The Hitchhikers Guide to the Galaxy	Orion	out
5	To Have and Have Not	Scribner	in
6	Fight Club	Recorded Books	in
7	The Old Man and the Sea	Simon and Schuster Audio	out
8	Great Expectations	Inc. Blackstone Audio	in
9	To Kill a Mockingbird	HarperAudio	out
10	The Grapes of Wrath	Penguin Audio	in
11	National Geographic	National Geographic Society	out
12	TIME	Henry Luce	yes
13	Better Homes and Gardens	Meredith Corporation	in

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Publisher before Insert

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Connections Oracle Connections Mitchell Tables (Filtered) Views Indexes Packages Procedures Functions Operators Queues Queues Tables Triggers Types Sequences Materialized Views Materialized View Logs Synonyms Public Synonyms Reports All Reports Analytic View Reports Data Dictionary Reports Data Modeler Reports OLAP Reports TimenTen Reports User Defined Reports

SQL Worksheet History

Worksheet Query Builder

```
SELECT Narrator
FROM Audio
UNION ALL
SELECT Author
FROM Book;
```

Select * from Library_Item;

Select * from Book;
Select * From Borrower;
Select * from Publisher;
Select * from Magazine;
Select * from Audio;

Script Output | Query Result | SQL | All Rows Fetched: 15 in 0.046 seconds

PUBLISHER_NAME	TELPHONE
Black and White Classics	5014567890
Benediction Classics	5011234567
Oribit	5014556778
Orion	5010941273
Scribner	5017789233
Recorded Books	5016667543
Simon and Schuster Audio	5015565654
Inc. Blackstone Audio	5018887865
HarperAudio	5017789233
Penguin Audio	5017723345
National Geographic Society	5018887233
TIME	5015667217
Better Homes and Gardens	5015544321

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Query 7

After Insert into Library_Item

The screenshot shows the Oracle SQL Developer interface with two panes. The top pane displays a query in the SQL Worksheet:

```
SELECT Narrator
FROM Audio
UNION ALL
SELECT Author
FROM Book;
```

The bottom pane shows the results of the query in the Script Output window. A new row has been added at the bottom:

ITEM_ID	PUBLISHER_NAME	AVAILABILITY
3	Orion	out
4	Scribner	in
5	Recorded Books	in
6	Simon and Schuster Audio	out
7	Blackstone Audio	in
8	HarperAudio	out
9	Penguin Audio	in
10	National Geographic Society	out
11	Henry Luce	yes
12	Meredith Corporation	in
13	Time Inc	no
14	Meredith Corporation	in
15	Entertainment Weekly	in
15	Test Title	in

After Insert into Publisher

The screenshot shows the Oracle SQL Developer interface with two panes. The top pane displays a query in the SQL Worksheet:

```
SELECT Narrator
FROM Audio
UNION ALL
SELECT Author
FROM Book;
```

The bottom pane shows the results of the query in the Script Output window. A new row has been added at the bottom:

PUBLISHER_NAME	TELEPHONE
Orion	5013541273
Scribner	5017769233
Recorded Books	5016667543
Simon and Schuster Audio	5015565654
Blackstone Audio	5018878765
HarperAudio	5017789233
Penguin Audio	5017723345
National Geographic Society	5018872333
TIME	5015667217
Meredith Corporation	5015544321
Better Homes and Gardens	5016923333
People	5016923333
Entertainment Weekly	5017787544
Test Name	5554443333

Query 8: Combining columns from different tables using UNION

- SELECT Narrator
- FROM Audio
- UNION ALL
- SELECT Author
- FROM Book;

Query 8

The screenshot shows the Oracle SQL Developer interface. The title bar reads "Oracle SQL Developer : C:\Users\benmi\Phase 3 SQL.sql". The menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, Help, and SVO. The toolbar has various icons for file operations. The Connections sidebar shows a connection named "Mitchell" under "Oracle Connections". The Worksheet tab is active, displaying the following SQL code:

```
INSERT INTO Library_Item (Title, Item_Id, Availability, Publisher_name)
VALUES('Test_Title','17117111', 'in', 'Test_PName');
COMMIT;

SELECT Narrator
FROM Audio
UNION ALL
SELECT Author
FROM Book;

Select * from Library_Item;
Select * from Book;
Select * From Borrower;
```

The Script Output window shows the results of the executed queries:

NARRATOR
1 Jim Colby
2 Donald Sutherland
3 Simon Prebble
4 Sissy Spacek
5 Dylan Baker
6 H.P.Lovecraft
7 Andrzej Sapkowski
8 Douglas Adams
9 Ernest Hemingway

The status bar at the bottom indicates "Saved: C:\Users\benmi\Phase 3 SQL.sql | Line 165 Column 1 | Insert | Modified | Windows: C:\ | 7:17 PM 4/30/2019". The taskbar at the bottom shows the Start button, a search bar, and icons for various applications like File Explorer, Edge, and Paint.

References

All work done on my project was done using the Oracle sqldeveloper. The connection name was MITCHELL, and the password was T00511486.
The File name is Phase 3 SQL.sql