

ITC 5104 Database Design and SQL

Hands-On Assignment# 8

Due Date: March 12, 2019 beginning of class, through Blackboard

1. Create a list that displays the title of each book and the name and phone number of the contact at the publisher's office for reordering each book.

```
SELECT title, contact, phone  
FROM Books b, Publisher pb  
WHERE b.pubid = pb.pubid;
```

```
SELECT title, contact, phone  
FROM Books b JOIN Publisher pb ON b.pubid = pb.pubid;
```

```
198  
199 /* Name - Ankur Prajapati           Assignment - 8(Q1)           StudentID: N01324892*/  
200 SELECT title, contact, phone  
201 FROM Books b, Publisher pb  
202 WHERE b.pubid = pb.pubid;  
203  
204 SELECT title, contact, phone  
205 FROM Books b JOIN Publisher pb ON b.pubid = pb.pubid;  
206
```

Query Result x

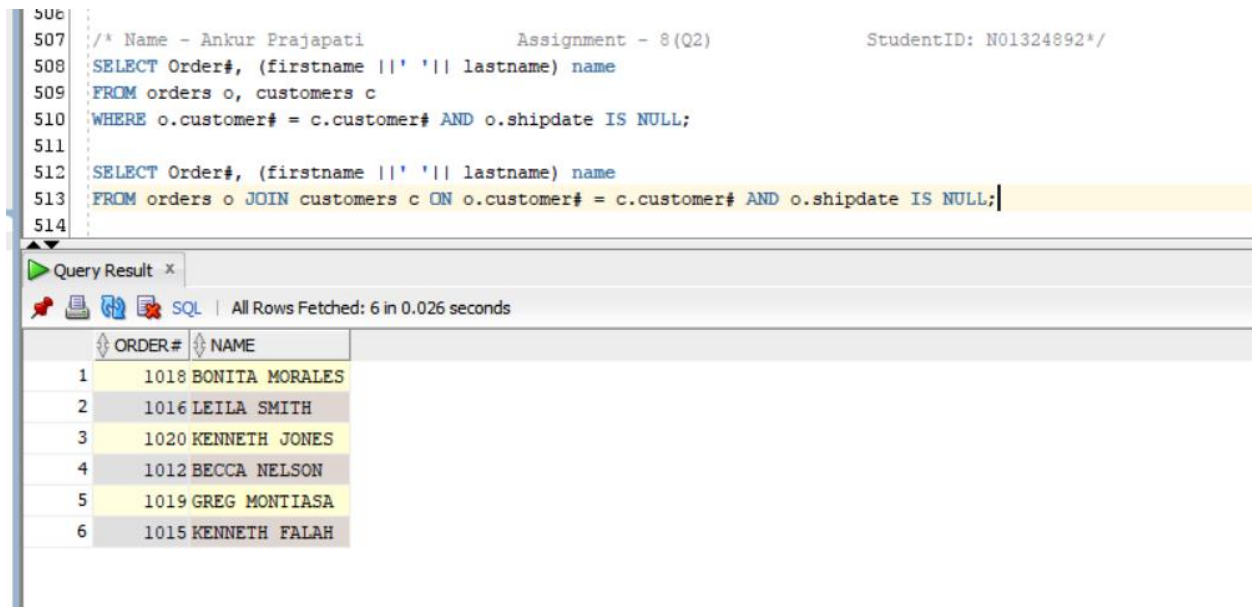
SQL | All Rows Fetched: 14 in 0.657 seconds

	TITLE	CONTACT	PHONE
1	REVENGE OF MICKEY	TOMMIE SEYMOUR	000-714-8321
2	HOW TO MANAGE THE MANAGER	TOMMIE SEYMOUR	000-714-8321
3	E-BUSINESS THE EASY WAY	JANE TOMLIN	010-410-0010
4	BUILDING A CAR WITH TOOTHPICKS	JANE TOMLIN	010-410-0010
5	HOLY GRAIL OF ORACLE	DAVID DAVIDSON	800-555-1211
6	DATABASE IMPLEMENTATION	DAVID DAVIDSON	800-555-1211
7	HANDCRANKED COMPUTERS	DAVID DAVIDSON	800-555-1211
8	COOKING WITH MUSHROOMS	RENEE SMITH	800-555-9743
9	THE WOK WAY TO COOK	RENEE SMITH	800-555-9743
10	HOW TO GET FASTER PIZZA	RENEE SMITH	800-555-9743
11	BODYBUILD IN 10 MINUTES A DAY	RENEE SMITH	800-555-9743
12	PAINLESS CHILD-REARING	SEBASTIAN JONES	800-555-8284
13	BIG BEAR AND LITTLE DOVE	SEBASTIAN JONES	800-555-8284

2. Determine which orders haven't yet shipped and the name of the customer who placed the order. Sort the results by the date on which the order was placed.

```
SELECT Order#, (firstname || ' ' || lastname) name
FROM orders o, customers c
WHERE o.customer# = c.customer# AND o.shipdate IS NULL;
```

```
SELECT Order#, (firstname || ' ' || lastname) name
FROM orders o JOIN customers c ON o.customer# = c.customer# AND o.shipdate IS NULL;
```



```
506
507 /* Name - Ankur Prajapati           Assignment - 8(Q2)           StudentID: N01324892*/
508 SELECT Order#, (firstname || ' ' || lastname) name
509 FROM orders o, customers c
510 WHERE o.customer# = c.customer# AND o.shipdate IS NULL;
511
512 SELECT Order#, (firstname || ' ' || lastname) name
513 FROM orders o JOIN customers c ON o.customer# = c.customer# AND o.shipdate IS NULL;
514
```

Query Result x

SQL | All Rows Fetched: 6 in 0.026 seconds

	ORDER#	NAME
1	1018	BONITA MORALES
2	1016	LEILA SMITH
3	1020	KENNETH JONES
4	1012	BECCA NELSON
5	1019	GREG MONTIASA
6	1015	KENNETH FALAH

3. Produce a list of all customers who live in the state of Florida and have ordered books about computers.

```
SELECT c.customer#, c.firstname || ' ' || c.lastname name, o.order#, oi.ISBN, b.category, c.state
FROM customers c, orders o, books b, orderitems oi
WHERE c.customer# = o.customer# AND o.order# = oi.order# AND oi.isbn = b.isbn AND
STATE = 'FL' AND b.category = 'COMPUTER';
```

```
SELECT customer#, c.firstname || ' ' || c.lastname name, order#, ISBN, b.category, c.state
FROM customers c JOIN orders o USING (customer#) JOIN orderitems oi USING
(order#) JOIN books b USING (ISBN)
WHERE state = 'FL' AND category = 'COMPUTER';
```

```

514
515 /* Name - Ankur Prajapati           Assignment - 8(Q3)           StudentID: N01324892*/
516 SELECT c.customer#, c.firstname || ' ' || c.lastname name, o.order#, oi.ISBN, b.category, c.state
517 FROM customers c, orders o, books b, orderitems oi
518 WHERE c.customer# = o.customer# AND o.order# = oi.order# AND oi.isbn = b.isbn AND STATE = 'FL' AND b.category = 'COMPUTER';
519
520 SELECT customer#, c.firstname || ' ' || c.lastname name, order#, ISBN, b.category, c.state
521 FROM customers c JOIN orders o USING (customer#) JOIN orderitems oi USING (order#) JOIN books b USING (ISBN)
522 WHERE state = 'FL' AND category = 'COMPUTER';
523
524

```

Query Result x

SQL | All Rows Fetched: 3 in 0.026 seconds

	CUSTOMER#	NAME	ORDER#	ISBN	CATEGORY	STATE
1	1001	BONITA MORALES	1003	8843172113	COMPUTER	FL
2	1001	BONITA MORALES	1018	8843172113	COMPUTER	FL
3	1003	LEILA SMITH	1006	9959789321	COMPUTER	FL

4. Determine which books customer Jake Lucas has purchased. Perform the search using the customer name, not the customer number. If he has purchased multiple copies of the same book, unduplicate the results.

```

SELECT DISTINCT b.title FROM customers c, orders o, orderitems i, books b
WHERE c.customer#=o.customer#
AND o.order#=i.order#
AND i.isbn=b.isbn
AND c.firstname='JAKE'
AND c.lastname='LUCAS';

```

```

SELECT DISTINCT b.title
FROM customers c JOIN orders USING (customer#)
JOIN orderitems USING (order#)
JOIN books b USING (isbn)
WHERE c.firstname='JAKE'
AND c.lastname='LUCAS';

```

```

523
524 /* Name - Ankur Prajapati           Assignment - 8(Q4)           StudentID: N01324892*/
525 SELECT DISTINCT b.title FROM customers c, orders o, orderitems i, books b
526 WHERE c.customer#=o.customer#
527 AND o.order#=i.order#
528 AND i.isbn=b.isbn
529 AND c.firstname='JAKE'
530 AND c.lastname='LUCAS';
531
532 SELECT DISTINCT b.title
533 FROM customers c JOIN orders USING (customer#)
534 JOIN orderitems USING (order#)
535 JOIN books b USING (isbn)
536 WHERE c.firstname='JAKE'
537 AND c.lastname='LUCAS';
538

```

Script Output x Query Result x

SQL | All Rows Fetched: 2 in 0.321 seconds

	TITLE
1	PAINLESS CHILD-REARING
2	HOW TO MANAGE THE MANAGER

5. Determine the profit of each book sold to Jake Lucas, using the actual price the customer paid (not the book's regular retail price). Sort the results by order date. If more than one book was ordered, sort the results by profit amount in descending order. Perform the search using the customer name, not the customer number.

```
SELECT b.title, i.paideach-cost
FROM customers c, orders o, orderitems i, books b
WHERE c.customer#=o.customer#
AND o.order#=i.order#
AND i.isbn=b.isbn
AND c.firstname='JAKE'
AND c.lastname='LUCAS'
ORDER BY o.orderdate, i.paideach-b.cost DESC;
```

```
SELECT b.title, i.paideach-cost
FROM customers c JOIN orders o USING (customer#)
JOIN orderitems I USING (order#)
JOIN books b USING (isbn)
WHERE c.firstname='JAKE'
AND c.lastname='LUCAS'
ORDER BY o.orderdate, i.paideach-b.cost DESC;
```

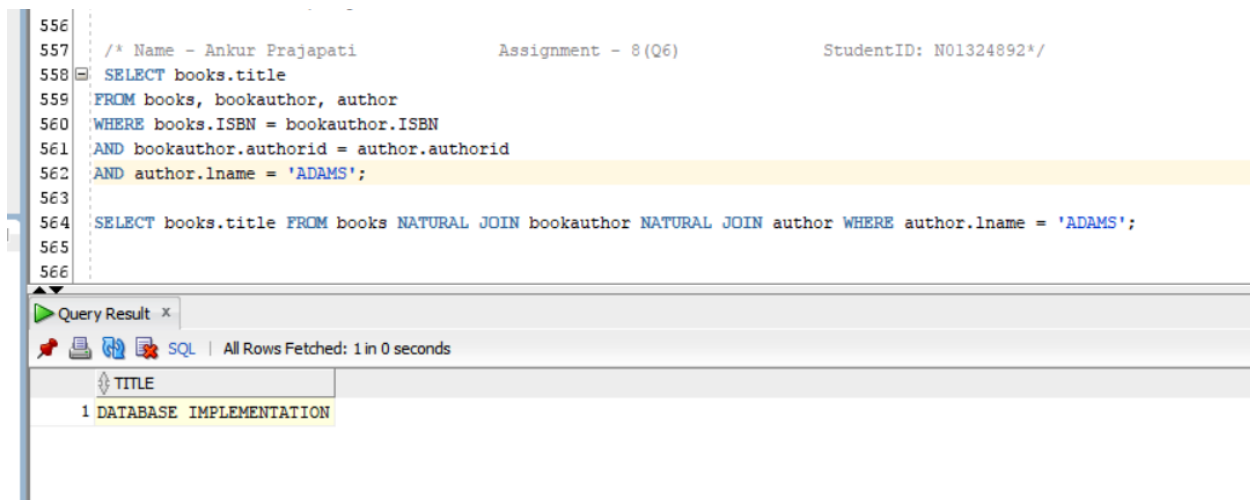
The screenshot shows a SQL IDE interface. At the top, there is a header bar with the text: "/* Name - Ankur Prajapati Assignment - 8 (Q5) StudentID: N01324892*/". Below this, two SQL queries are displayed in a text editor. The first query is the same as the one in the previous block. The second query is also the same as the one in the previous block. Below the queries, there is a "Query Result" tab. The result shows 3 rows of data. The first row is "PAINLESS CHILD-REARING" with a cost of 37.45. The second row is "HOW TO MANAGE THE MANAGER" with a cost of 16.55. The third row is "PAINLESS CHILD-REARING" with a cost of 37.45. The results are sorted by order date and then by profit amount in descending order.

	TITLE	I.PAIDEACH-COST
1	PAINLESS CHILD-REARING	37.45
2	HOW TO MANAGE THE MANAGER	16.55
3	PAINLESS CHILD-REARING	37.45

6. Which books were written by an author with the last name Adams? Perform the search using the author name.

```
SELECT books.title  
FROM books, bookauthor, author  
WHERE books.ISBN = bookauthor.ISBN  
AND bookauthor.authorid = author.authorid  
AND author.lname = 'ADAMS';
```

```
SELECT books.title FROM books NATURAL JOIN bookauthor NATURAL JOIN author  
WHERE author.lname = 'ADAMS';
```



The screenshot shows a SQL IDE interface. The top pane displays two SQL queries. The first query is highlighted in yellow and matches the first query block. The second query is also highlighted in yellow and matches the second query block. The bottom pane shows the 'Query Result' for the first query, displaying a single row with the title 'DATABASE IMPLEMENTATION'.

```
556  
557 /* Name - Ankur Prajapati           Assignment - 8(Q6)           StudentID: N01324892*/  
558 SELECT books.title  
559 FROM books, bookauthor, author  
560 WHERE books.ISBN = bookauthor.ISBN  
561 AND bookauthor.authorid = author.authorid  
562 AND author.lname = 'ADAMS';  
563  
564 SELECT books.title FROM books NATURAL JOIN bookauthor NATURAL JOIN author WHERE author.lname = 'ADAMS';  
565  
566
```

Query Result x

All Rows Fetched: 1 in 0 seconds

TITLE
1 DATABASE IMPLEMENTATION

7. What gift will a customer who orders the book Shortest Poems receive? Use the actual book retail value to determine the gift.

```
SELECT BOOKS.TITLE, BOOKS.RETAIL "RETAIL COST",  
ORDERS.SHIPCOST, ORDERITEMS.PAIDEACH,  
(BOOKS.RETAIL+ORDERS.SHIPCOST-ORDERITEMS.PAIDEACH)  
FROM BOOKS, ORDERITEMS, ORDERS  
WHERE TITLE='SHORTEST POEMS'  
AND BOOKS.ISBN=ORDERITEMS.ISBN  
AND ORDERITEMS.ORDER#=ORDERS.ORDER#;
```

```

66  /* Name - Ankur Prajapati           Assignment - 8(Q7)           StudentID: N01324892*/
67  SELECT BOOKS.TITLE,BOOKS.RETAIL "RETAIL COST",
68  ORDERS.SHIPCOST,ORDERITEMS.PAIDEACH,
69  (BOOKS.RETAIL+ORDERS.SHIPCOST-ORDERITEMS.PAIDEACH)
70  FROM BOOKS,ORDERITEMS,ORDERS
71  WHERE TITLE='SHORTEST POEMS'
72  AND BOOKS.ISBN=ORDERITEMS.ISBN
73  AND ORDERITEMS.ORDER#=ORDERS.ORDER#;
74
75
76
77
78

```

Query Result x

All Rows Fetched: 1 in 0.069 seconds

	TITLE	RETAIL COST	SHIPCOST	PAIDEACH	(BOOKS.RETAIL+ORDERS.SHIPCOST-ORDERITEMS.PAIDEACH)
1	SHORTEST POEMS	39.95	2	39.95	2

8. Identify the authors of the books Becca Nelson ordered. Perform the search using the customer name.

SELECT Title, firstname, lastname
FROM customers natural join ORDERITEMS natural join ORDERS natural join BOOKS
natural join BOOKAUTHOR natural join AUTHOR
WHERE lastname='NELSON' AND firstname='BECCA';

```

560
561  /* Name - Ankur Prajapati           Assignment - 8(Q8)           StudentID: N01324892*/
562  SELECT Title, firstname, lastname
563  FROM customers natural join ORDERITEMS natural join ORDERS natural join BOOKS natural join BOOKAUTHOR natural join AUTHOR
564  WHERE lastname='NELSON' AND firstname='BECCA';
565
566
567
568
569

```

Script Output x | Query Result x | Query Result 1 x

All Rows Fetched: 7 in 1.046 seconds

	TITLE	FIRSTNAME	LASTNAME
1	REVENGE OF MICKEY	BECCA	NELSON
2	HANDCRANKED COMPUTERS	BECCA	NELSON
3	HANDCRANKED COMPUTERS	BECCA	NELSON
4	PAINLESS CHILD-REARING	BECCA	NELSON
5	PAINLESS CHILD-REARING	BECCA	NELSON
6	PAINLESS CHILD-REARING	BECCA	NELSON
7	BIG BEAR AND LITTLE DOVE	BECCA	NELSON

9. Display a list of all books in the BOOKS table. If a book has been ordered by a customer, also list the corresponding order number and the state in which the customer resides.

```
SELECT b.title, o.order#, c.state  
FROM books b, orders o, orderitems i, customers c  
WHERE c.customer#(+) = o.customer#  
AND o.order#(+) = i.order#  
AND i.isbn(+) = b.isbn;
```

```
SELECT b.title, order#, c.state  
FROM books b LEFT OUTER JOIN orderitems i USING (isbn)  
LEFT OUTER JOIN orders USING (order#)  
LEFT OUTER JOIN customers c USING (customer#);
```

549 /* Name - Ankur Prajapati Assignment - 8 (Q9) StudentID: N01324892*/
550 SELECT b.title, o.order#, c.state
551 FROM books b, orders o, orderitems i, customers c
552 WHERE c.customer#(+) = o.customer#
553 AND o.order#(+) = i.order#
554 AND i.isbn(+) = b.isbn;
555
556 SELECT b.title, order#, c.state
557 FROM books b LEFT OUTER JOIN orderitems i USING (isbn)
558 LEFT OUTER JOIN orders USING (order#)
559 LEFT OUTER JOIN customers c USING (customer#);
560
561
562
563
564

Script Output x Query Result x
SQL | All Rows Fetched: 35 in 0.33 seconds

TITLE	ORDER#	STATE
1 BODYBUILD IN 10 MINUTES A DAY	1003	FL
2 COOKING WITH MUSHROOMS	1003	FL
3 DATABASE IMPLEMENTATION	1003	FL
4 COOKING WITH MUSHROOMS	1018	FL
5 DATABASE IMPLEMENTATION	1018	FL
6 E-BUSINESS THE EASY WAY	1006	FL
7 PAINLESS CHILD-REARING	1016	FL
8 COOKING WITH MUSHROOMS	1008	ID
9 COOKING WITH MUSHROOMS	1000	WA
10 REVENGE OF MICKEY	1009	WA
11 COOKING WITH MUSHROOMS	1009	WA
12 HOLY GRAIL OF ORACLE	1007	TX
13 BIG BEAR AND LITTLE DOVE	1007	TX

C:\5104-ONA\Data Files\1305251032_528129\JLDB_Build_8.sql

10. An EMPLOYEES table was added to the JustLee Books database to track employee information. Display a list of each employee's name, job title, and manager's name. Use column aliases to clearly identify employee and manager name values. Include all employees in the list and sort by manager name.

```
SELECT e.FIRST_NAME||' '||e.LAST_NAME "Employee name", e.JOB_ID,  
m.FIRST_NAME||' '||m.LAST_NAME "Manager Name"  
FROM employees_test e, employees_test m  
WHERE e.MANAGER_ID=m.EMPLOYEE_ID(+)  
ORDER BY "Manager Name";
```

```
SELECT e.FIRST_NAME||' '||e.LAST_NAME "Employee nam", e.JOB_ID,  
m.FIRST_NAME||' '||m.LAST_NAME "Manager Name"  
FROM employees_test e LEFT OUTER JOIN employees_test m  
ON e.MANAGER_ID=m.EMPLOYEE_ID  
ORDER BY "Manager Name";
```

```
610  
611 /* Name - Ankur Prajapati Assignment - 8(10) StudentID: N01324892*/  
612 SELECT e.FIRST_NAME||' '||e.LAST_NAME "Employee name", e.JOB_ID,  
613 m.FIRST_NAME||' '||m.LAST_NAME "Manager Name"  
614 FROM employees_test e, employees_test m  
615 WHERE e.MANAGER_ID=m.EMPLOYEE_ID(+)  
616 ORDER BY "Manager Name";  
617  
618 SELECT e.FIRST_NAME||' '||e.LAST_NAME "Employee nam", e.JOB_ID,  
619 m.FIRST_NAME||' '||m.LAST_NAME "Manager Name"  
620 FROM employees_test e LEFT OUTER JOIN employees_test m  
621 ON e.MANAGER_ID=m.EMPLOYEE_ID  
622 ORDER BY "Manager Name";  
623  
624  
625  
626  
627
```

Script Output x

Query Result x

All Rows Fetched: 107 in 0.484 seconds

	Employee nam	JOB_ID	Manager Name
1	Steven King	AD_PRES	
2	Anthony Cabrio	SH_CLERK	Adam Fripp
3	Julia Dellinger	SH_CLERK	Adam Fripp
4	Alexis Bull	SH_CLERK	Adam Fripp
5	Nandita Sarchand	SH_CLERK	Adam Fripp
6	Laura Bissot	ST_CLERK	Adam Fripp
7	Mozhe Atkinson	ST_CLERK	Adam Fripp
8	James Marlow	ST_CLERK	Adam Fripp
9	TJ Olson	ST_CLERK	Adam Fripp
10	Sundar Ande	SA_REP	Alberto Errazuriz
11	Amit Banda	SA_REP	Alberto Errazuriz
12	David Lee	SA_REP	Alberto Errazuriz