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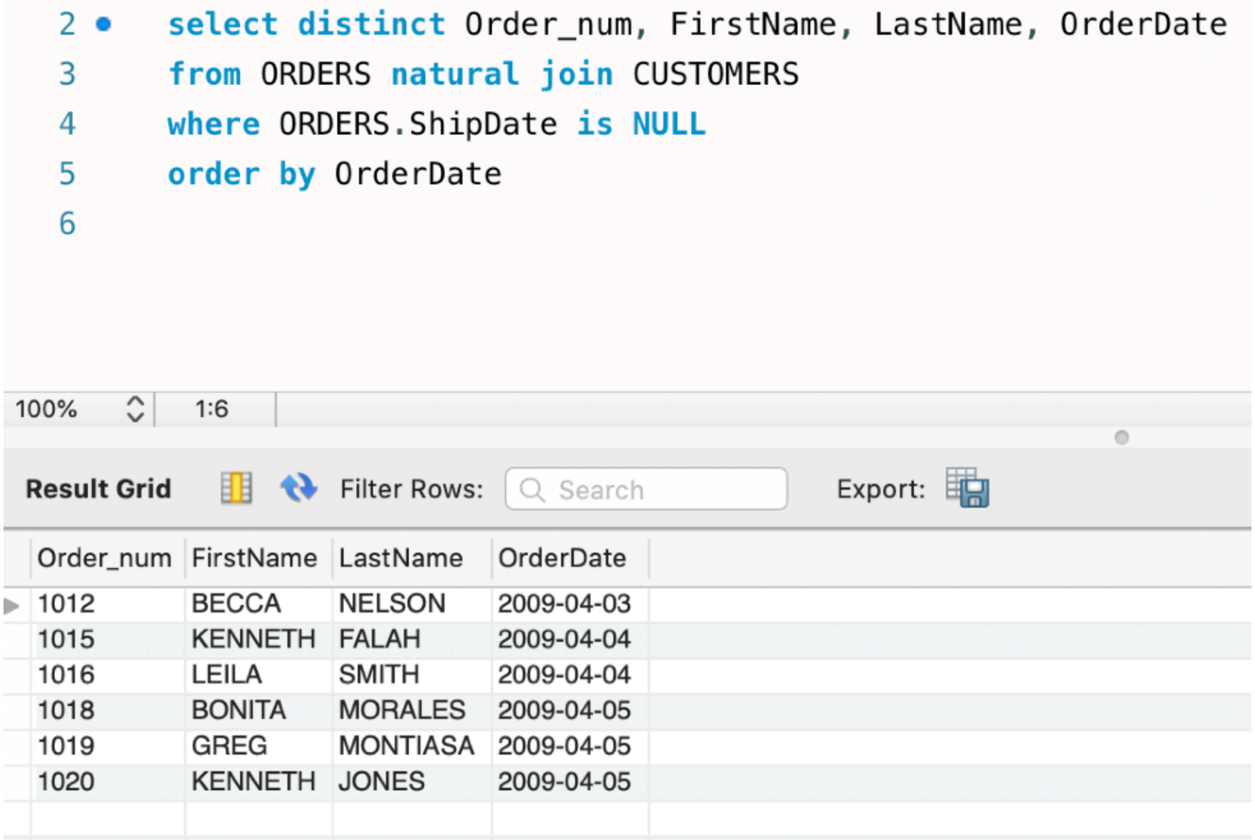
CSCD 327 Lab #4 (15 points)

Use database *YourUsername_3* to complete the following queries in SQL. Please include both the query statements and the query results in your submission.

Section 1: Multiple-table Queries

1. 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. List the order number, the corresponding customer name, and order date.

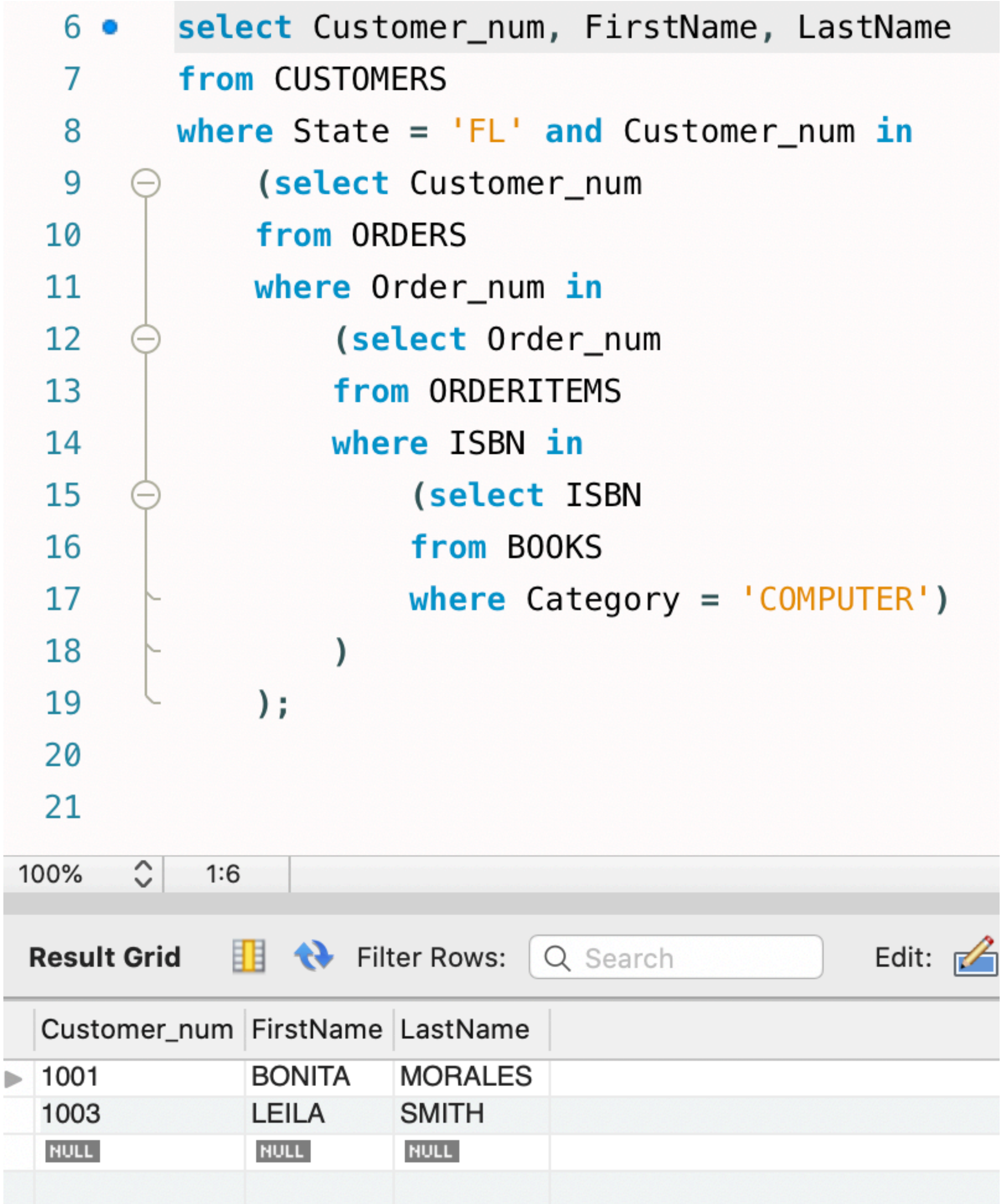


```
select distinct Order_num, FirstName, LastName, OrderDate
from ORDERS natural join CUSTOMERS
where ORDERS.ShipDate is NULL
order by OrderDate
```

Order_num	FirstName	LastName	OrderDate
1012	BECCA	NELSON	2009-04-03
1015	KENNETH	FALAH	2009-04-04
1016	LEILA	SMITH	2009-04-04
1018	BONITA	MORALES	2009-04-05
1019	GREG	MONTIASA	2009-04-05
1020	KENNETH	JONES	2009-04-05

2. Find a list of all customers who live in the state of *FL* and have ordered books about *COMPUTERs (i.e., category = 'COMPUTER')*. List the

customer number, the customer name, and the corresponding order number.

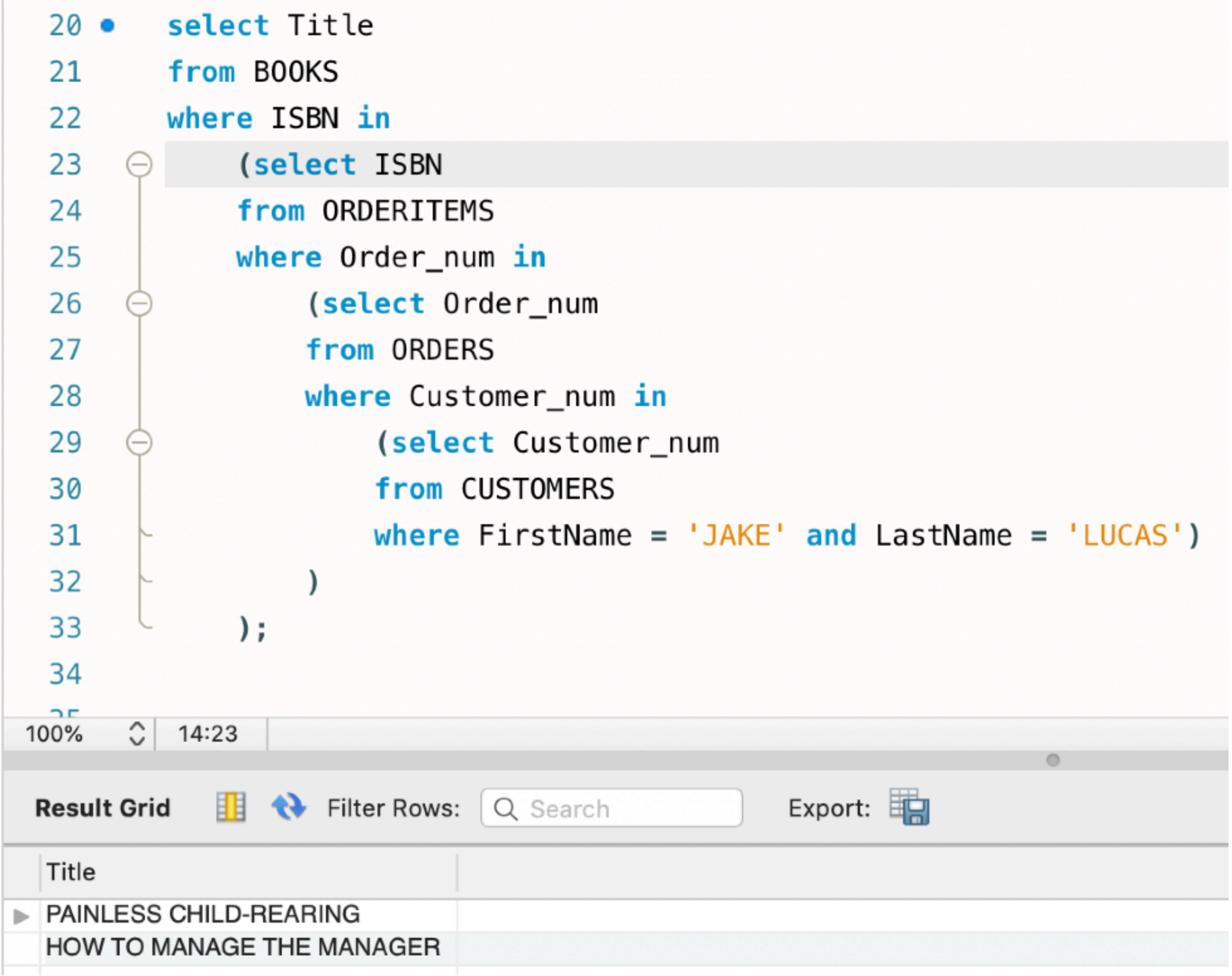


```sql
select Customer_num, FirstName, LastName
from CUSTOMERS
where State = 'FL' and Customer_num in
    (select Customer_num
    from ORDERS
    where Order_num in
        (select Order_num
        from ORDERITEMS
        where ISBN in
            (select ISBN
            from BOOKS
            where Category = 'COMPUTER')
        )
    );
```

Customer_num	FirstName	LastName
1001	BONITA	MORALES
1003	LEILA	SMITH
NULL	NULL	NULL

3. Determine which books customer *JAKE LUCAS* has purchased. If he has purchased multiple copies of the same book, unduplicate the results. List

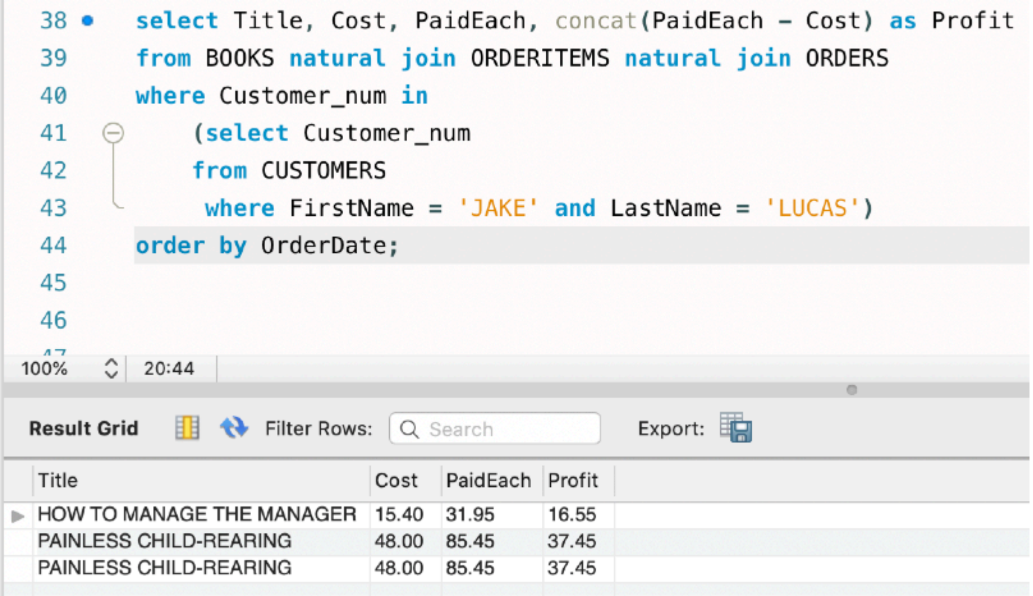
the book title.



```sql
select Title
from BOOKS
where ISBN in
    (select ISBN
    from ORDERITEMS
    where Order_num in
        (select Order_num
        from ORDERS
        where Customer_num in
            (select Customer_num
            from CUSTOMERS
            where FirstName = 'JAKE' and LastName = 'LUCAS')
        )
    );
```

Title
PAINLESS CHILD-REARING
HOW TO MANAGE THE MANAGER

4. Determine the profit of each book sold to *JAKE LUCAS*, using the actual price the customer paid (*profit* = *PaidEach* – *Cost*). Sort the results by order date first. If more than one book was ordered on the same day, sort

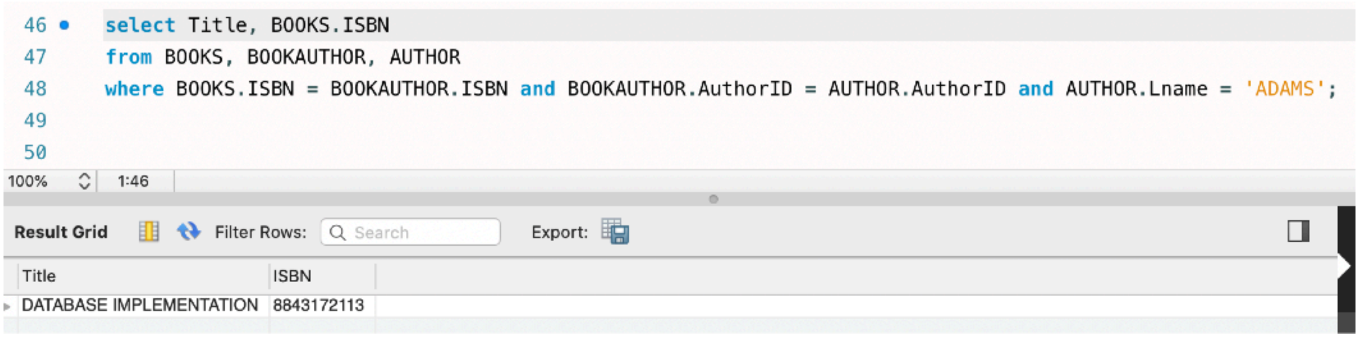


```sql
select Title, Cost, PaidEach, concat(PaidEach - Cost) as Profit
from BOOKS natural join ORDERITEMS natural join ORDERS
where Customer_num in
    (select Customer_num
    from CUSTOMERS
     where FirstName = 'JAKE' and LastName = 'LUCAS')
order by OrderDate;
```

Title	Cost	PaidEach	Profit
HOW TO MANAGE THE MANAGER	15.40	31.95	16.55
PAINLESS CHILD-REARING	48.00	85.45	37.45
PAINLESS CHILD-REARING	48.00	85.45	37.45

the results by profit amount in descending order. List the book title, the order date, and the corresponding profit.

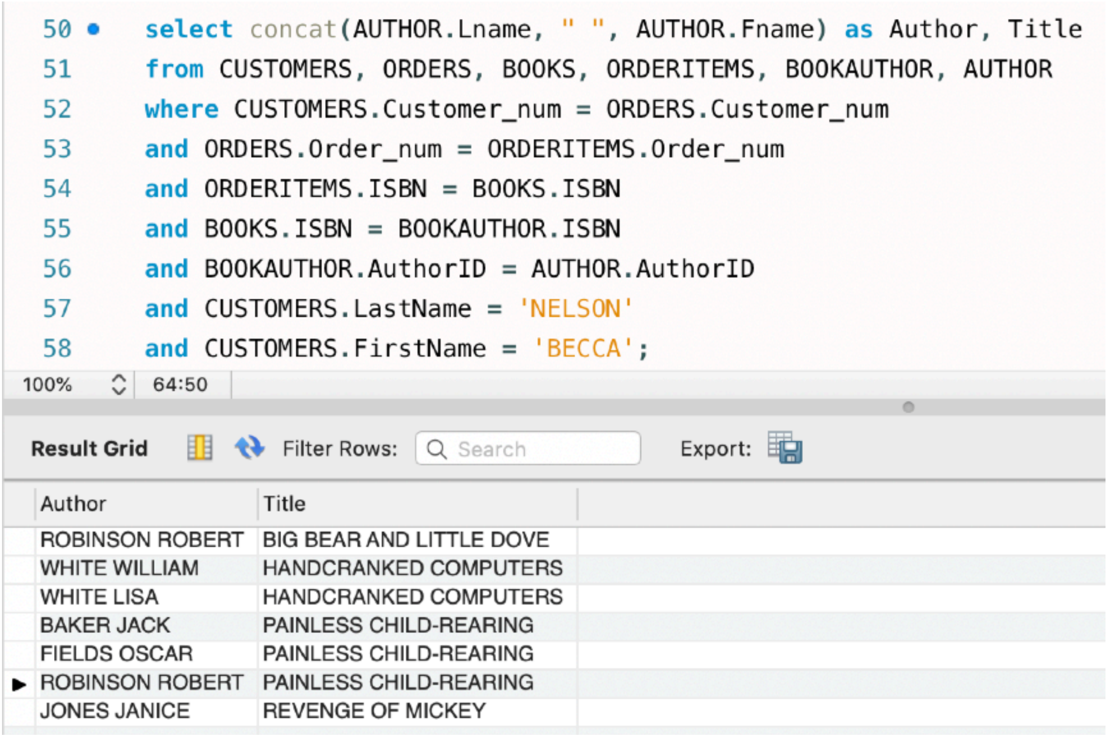
5. Determine which books were written by an author of last name *ADAMS*? List the isbn and the title of the book.



```sql
select Title, BOOKS.ISBN
from BOOKS, BOOKAUTHOR, AUTHOR
where BOOKS.ISBN = BOOKAUTHOR.ISBN and BOOKAUTHOR.AuthorID = AUTHOR.AuthorID and AUTHOR.Lname = 'ADAMS';
```

Title	ISBN
DATABASE IMPLEMENTATION	8843172113

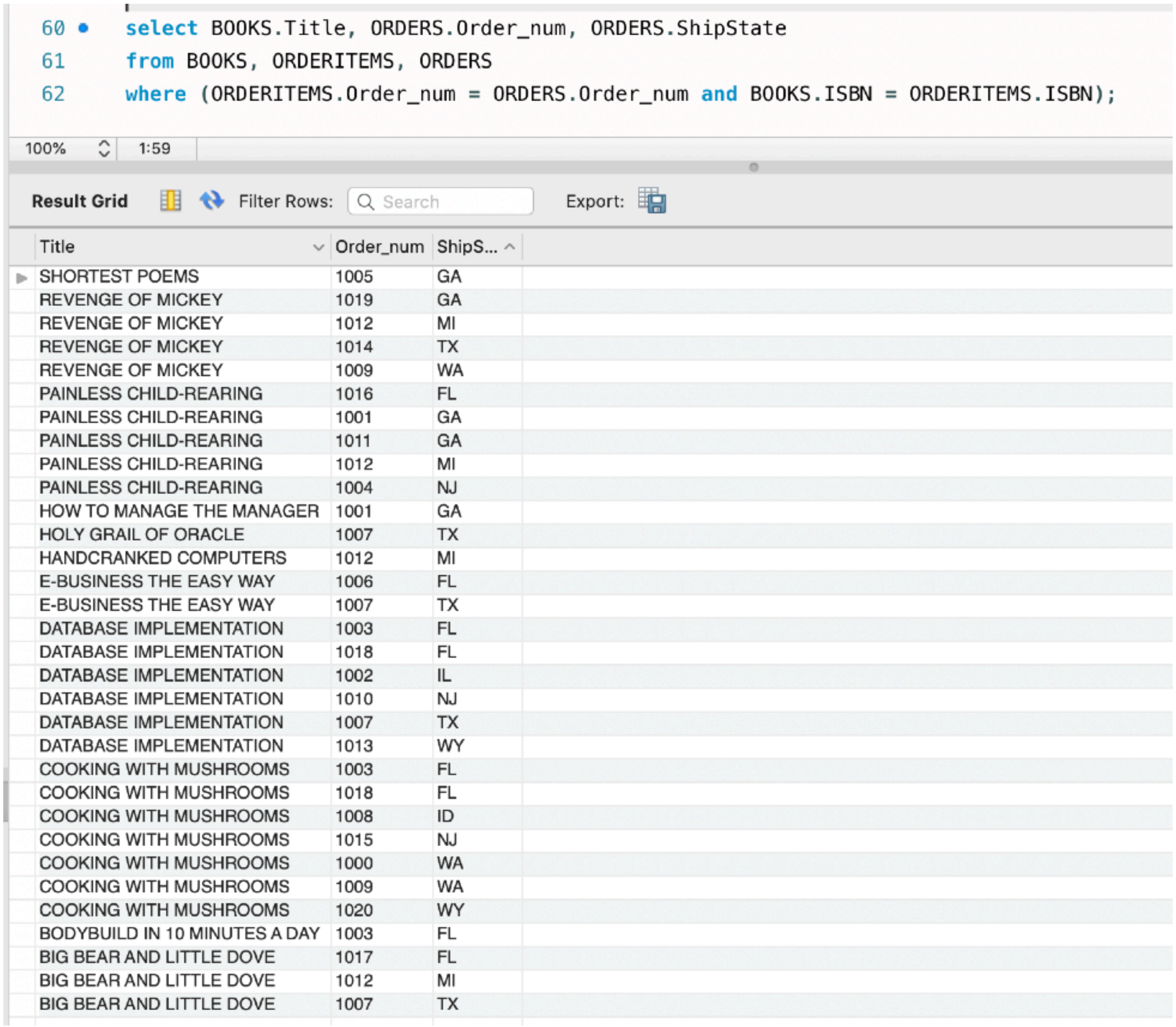
6. Identify the authors of the books *BECCA NELSON* ordered. List the name of the author and the book title.



```sql
select concat(AUTHOR.Lname, " ", AUTHOR.Fname) as Author, Title
from CUSTOMERS, ORDERS, BOOKS, ORDERITEMS, BOOKAUTHOR, AUTHOR
where CUSTOMERS.Customer_num = ORDERS.Customer_num
and ORDERS.Order_num = ORDERITEMS.Order_num
and ORDERITEMS.ISBN = BOOKS.ISBN
and BOOKS.ISBN = BOOKAUTHOR.ISBN
and BOOKAUTHOR.AuthorID = AUTHOR.AuthorID
and CUSTOMERS.LastName = 'NELSON'
and CUSTOMERS.FirstName = 'BECCA';
```

Author	Title
ROBINSON ROBERT	BIG BEAR AND LITTLE DOVE
WHITE WILLIAM	HANDCRANKED COMPUTERS
WHITE LISA	HANDCRANKED COMPUTERS
BAKER JACK	PAINLESS CHILD-REARING
FIELDS OSCAR	PAINLESS CHILD-REARING
ROBINSON ROBERT	PAINLESS CHILD-REARING
JONES JANICE	REVENGE OF MICKEY

7. Display a list of all books. If a book has been ordered by a customer, list the book title, and the corresponding order number and the state in which the customer resides. If a book has not been ordered by a customer, only list the book title.



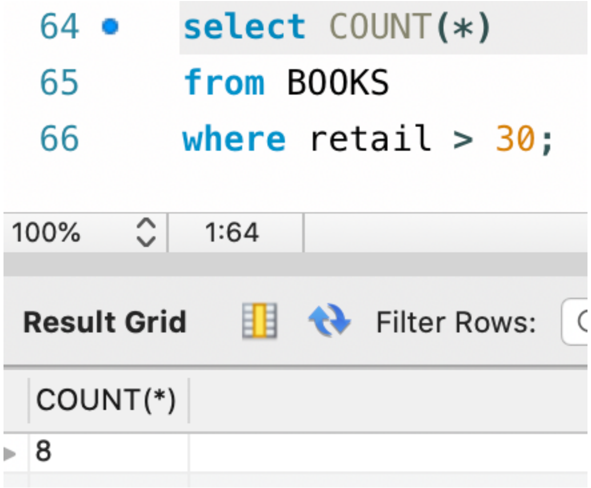
```
select BOOKS.Title, ORDERS.Order_num, ORDERS.ShipState
from BOOKS, ORDERITEMS, ORDERS
where (ORDERITEMS.Order_num = ORDERS.Order_num and BOOKS.ISBN = ORDERITEMS.ISBN);
```

Title	Order_num	ShipS...
SHORTEST POEMS	1005	GA
REVENGE OF MICKEY	1019	GA
REVENGE OF MICKEY	1012	MI
REVENGE OF MICKEY	1014	TX
REVENGE OF MICKEY	1009	WA
PAINLESS CHILD-REARING	1016	FL
PAINLESS CHILD-REARING	1001	GA
PAINLESS CHILD-REARING	1011	GA
PAINLESS CHILD-REARING	1012	MI
PAINLESS CHILD-REARING	1004	NJ
HOW TO MANAGE THE MANAGER	1001	GA
HOLY GRAIL OF ORACLE	1007	TX
HANDCRANKED COMPUTERS	1012	MI
E-BUSINESS THE EASY WAY	1006	FL
E-BUSINESS THE EASY WAY	1007	TX
DATABASE IMPLEMENTATION	1003	FL
DATABASE IMPLEMENTATION	1018	FL
DATABASE IMPLEMENTATION	1002	IL
DATABASE IMPLEMENTATION	1010	NJ
DATABASE IMPLEMENTATION	1007	TX
DATABASE IMPLEMENTATION	1013	WY
COOKING WITH MUSHROOMS	1003	FL
COOKING WITH MUSHROOMS	1018	FL
COOKING WITH MUSHROOMS	1008	ID
COOKING WITH MUSHROOMS	1015	NJ
COOKING WITH MUSHROOMS	1000	WA
COOKING WITH MUSHROOMS	1009	WA
COOKING WITH MUSHROOMS	1020	WY
BODYBUILD IN 10 MINUTES A DAY	1003	FL
BIG BEAR AND LITTLE DOVE	1017	FL
BIG BEAR AND LITTLE DOVE	1012	MI
BIG BEAR AND LITTLE DOVE	1007	TX

was confused on null part but got the rest at least.

Section 2: Aggregate Functions

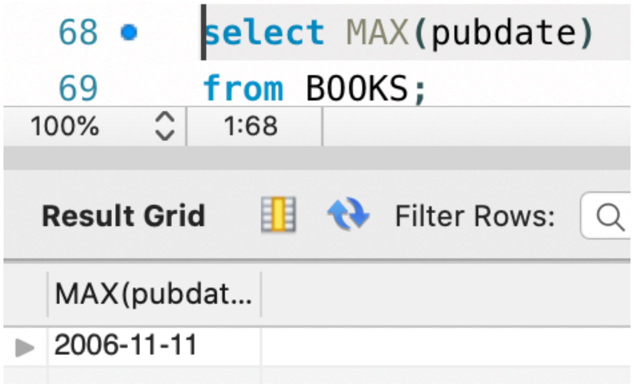
8. Find the number of books which have a retail price of $30.00 or more.



```
select COUNT(*)
from BOOKS
where retail > 30;
```

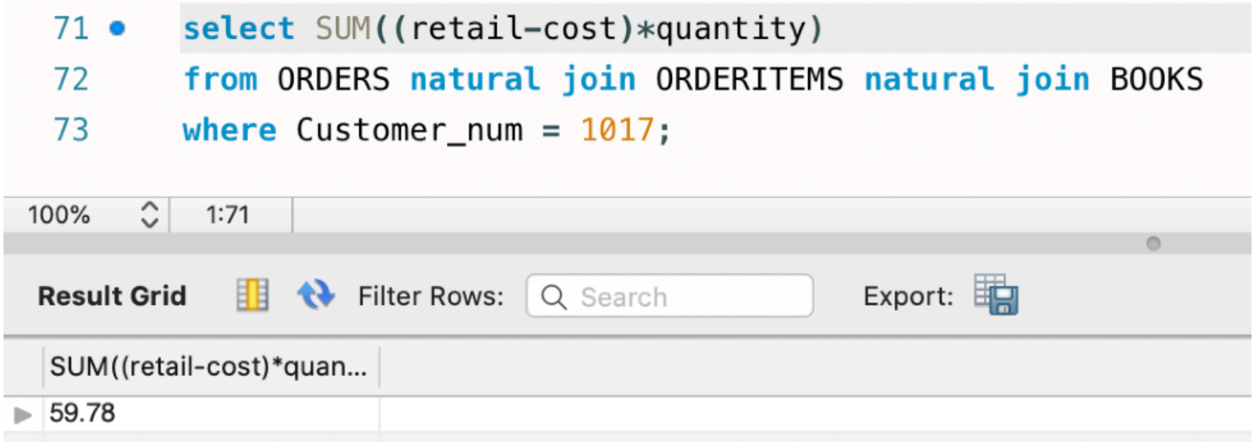
COUNT(*)
8

9. Display the most recent publication date among all books owned by the bookstore.



```
select MAX(pubdate)
from BOOKS;
```

MAX(pubdat...
2006-11-11

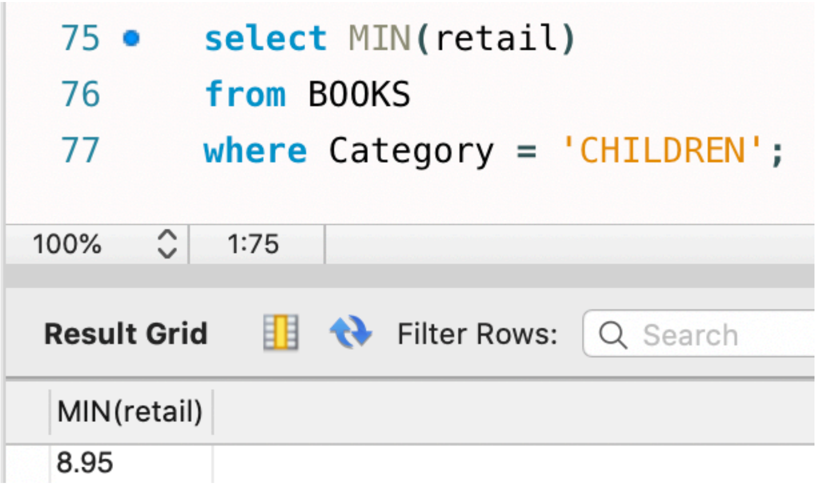


```
select SUM((retail-cost)*quantity)
from ORDERS natural join ORDERITEMS natural join BOOKS
where Customer_num = 1017;
```

SUM((retail-cost)*quan...
59.78

10. Determine the total profit generated by sales to customer 1017. [Note: total profit = sum((retail-cost)*quantity)]

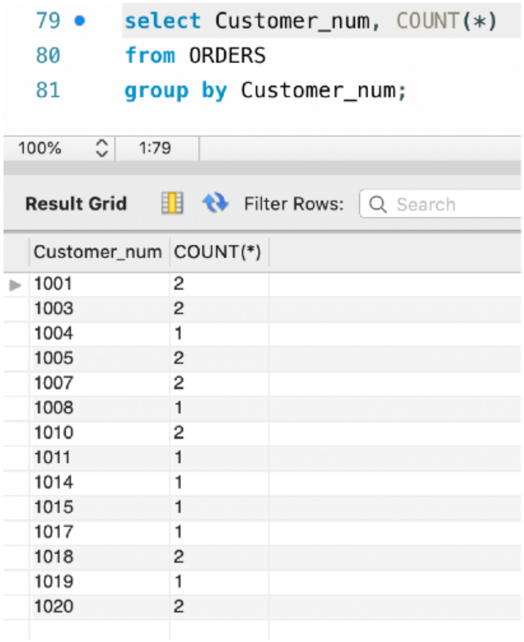
11. List the retail price of the least expensive book in the *CHILDREN* category.



```sql
select MIN(retail)
from BOOKS
where Category = 'CHILDREN';
```

```
MIN(retail)
8.95
```

12. Determine how many orders have been placed by each customer. Do not include the customers who haven't placed any order. Display the

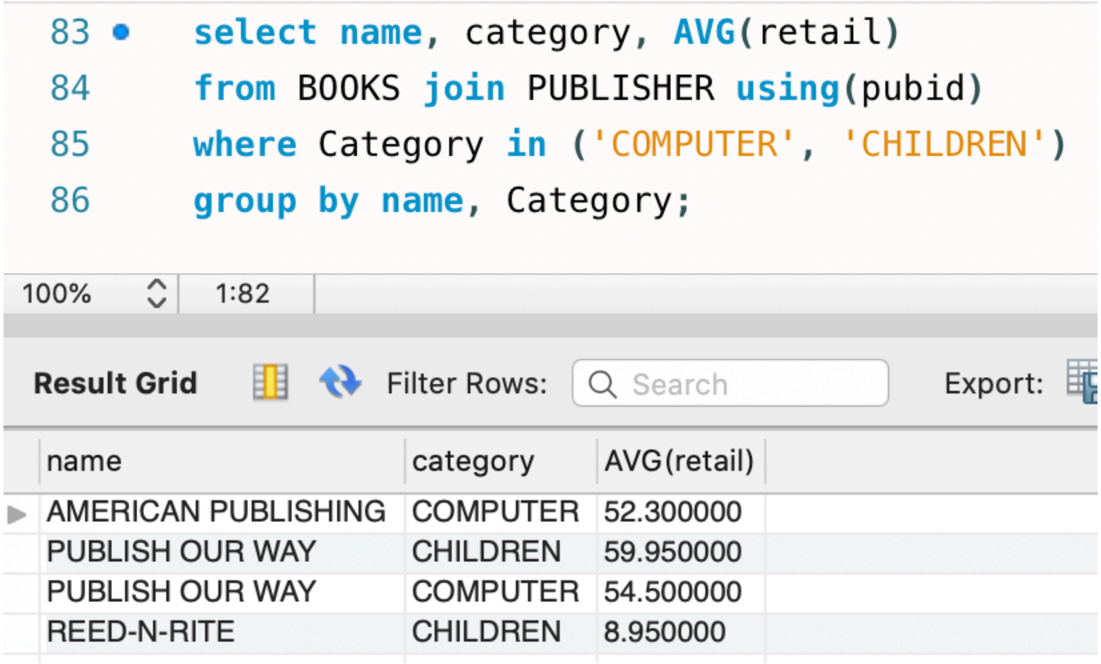


```sql
select Customer_num, COUNT(*)
from ORDERS
group by Customer_num;
```

```
Customer_num  COUNT(*)
1001          2
1003          2
1004          1
1005          2
1007          2
1008          1
1010          2
1011          1
1014          1
1015          1
1017          1
1018          2
1019          1
1020          2
```

customer number, and the number of orders placed by the customer.

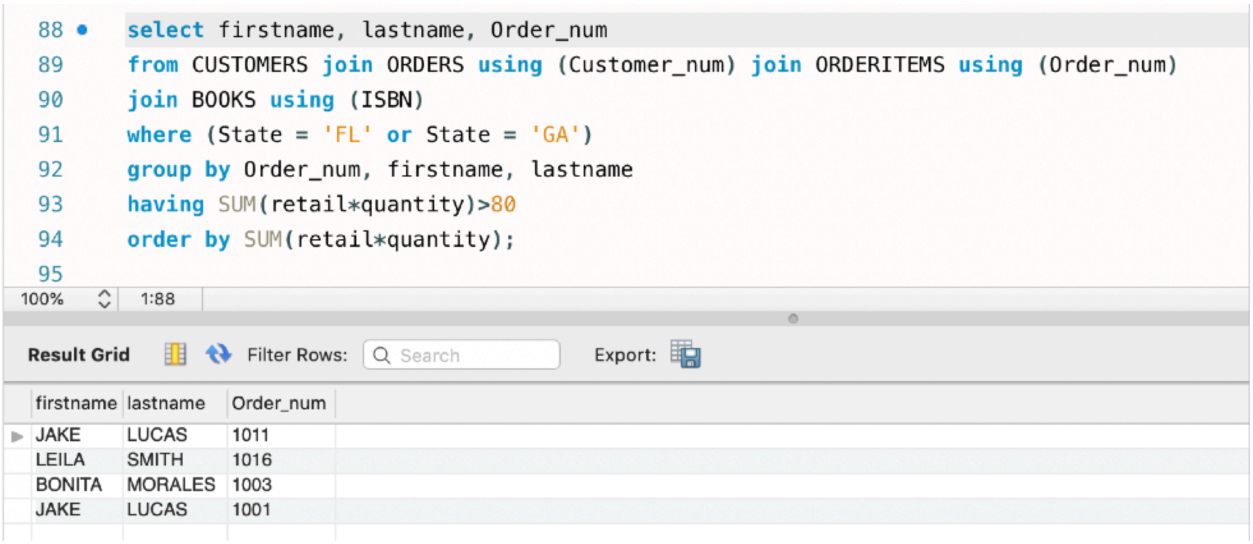
13. Determine the average retail price of books by publisher and category (i.e., group by publisher name and book category). Include only the (publisher, category) pair when the corresponding average retail price is more than $50.



```sql
select name, category, AVG(retail)
from BOOKS join PUBLISHER using(pubid)
where Category in ('COMPUTER', 'CHILDREN')
group by name, Category;
```

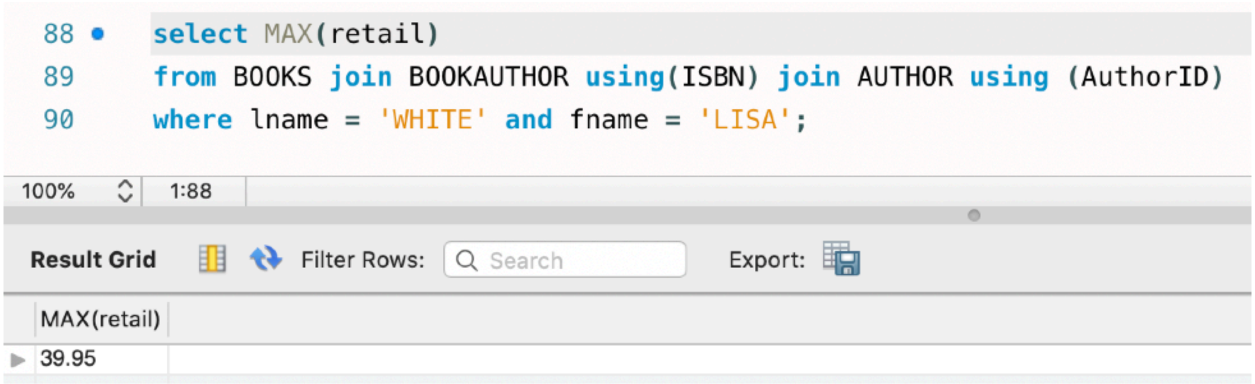
name	category	AVG(retail)
AMERICAN PUBLISHING	COMPUTER	52.300000
PUBLISH OUR WAY	CHILDREN	59.950000
PUBLISH OUR WAY	COMPUTER	54.500000
REED-N-RITE	CHILDREN	8.950000

14. List the customers living in *GA* or *FL* who have placed an order totaling more than $80 (hint: use “*group by order_num having …*”). List the name of the customer, the order number, and the corresponding order total. Sort the result by the order total in ascending order. [Note: *Order total* = sum(*retail*quantity*)].



```
select firstname, lastname, Order_num
from CUSTOMERS join ORDERS using (Customer_num) join ORDERITEMS using (Order_num)
join BOOKS using (ISBN)
where (State = 'FL' or State = 'GA')
group by Order_num, firstname, lastname
having SUM(retail*quantity)>80
order by SUM(retail*quantity);
```

```
firstname  lastname  Order_num
JAKE       LUCAS     1011
LEILA      SMITH     1016
BONITA     MORALES   1003
JAKE       LUCAS     1001
```



```
select MAX(retail)
from BOOKS join BOOKAUTHOR using(ISBN) join AUTHOR using (AuthorID)
where lname = 'WHITE' and fname = 'LISA';
```

```
MAX(retail)
39.95
```

15. What’s the retail price of the most expensive book written by *LISA WHITE*.