INFS1603 LAB
HOMEWORK /EXERCISES

Introduction

In this course, students will need to become familiar with a range of personal computer software, including SQLDeveloper. The labs are available for students to do this on a self-taught basis, using the recommended workbooks or equivalent alternatives. Please see Course Outline to see the lab information (e.g., location and time).

Lab Exercises

These exercises are designed to teach the essential Oracle SQL skills, which will allow students to write queries against single and multiple tables, manipulate data in tables, and create database objects, use the dictionary views to retrieve metadata and create queries about their schema objects. The Oracle lab exercises are complements to the Oracle Lab Manual.

The lab exercises are drawn from the exercises in Casteel (2010) (Casteel, J. (2010) Oracle 11*g* SQL, Course Technology, Cengage Learning, Australia).

Lab Topics

You are expected to do the weekly lab exercises and submit your work in person prior to the beginning of the lab/tutorial. You do not expect to complete the exercises in the allocated lab time, but you should complete the exercises as part of your workload for this course. The table below shows the topics to be covered in the lab/tutorial and weekly lab exercises you are expected to submit.

Week No	Lab Topic	Casteel Chapter	Due
1	1A - Basic SQL Statements	2	**Week 2**
1	1B - Restricting Rows and Sorting Data	8	**Week 2**
2	ERD Part 1 (See Moodle for HW)		**Week 3**
3	ERD Part 2 (See Moodle for HW)		**Week 4**
4	Selected Single-Row Function	10	**Week 5**
5	Joining data from multiple tables	9	**Week 7**
6	Flexibility	-	
7	Table Creation and Management, Constraints	3 and 4	**Week 8**
8	Data Manipulation and Group Functions	5, 11	**Week 9**
9	Subqueries and MERGE statements	12	**Week 10**
10	**Group Presentations**		**Week 10**

The lab exercises are divided into three components: **Multiple-Choice Questions, Hands-On Assignments, and Advanced Challenge**. Questions are selected from Casteel, and all the question numbers are associated with the questions in Casteel.

Submission Requirements

You have to show that you make a reasonable attempt on the lab exercises of each week (Your solutions may not be perfectly valid, but they reflect your considerations and efforts in these exercises). Your solutions should be emailed to your tutor in a word document) at the very beginning of each lab.

Please read the detailed instructions as below:

1. Your solutions **must**
   - include the **course code**, **tutorial session and week number**, and
   - include your **full name** and **zID**.

   A submission that does not include the required information will automatically incur a zero mark.
2. Late submissions are **not** accepted.
3. A homework submission template is provided.

Multiple-Choice Questions

You **do not need to submit** your answers of the Multiple-Choice Questions (MCQ).

Hands-On Assignments

You have to **submit both your SQL script and SQL output**.

Advanced Challenge

You have to submit both your SQL script and SQL output. You can submit SQL output as a 'query report' or a 'screen capture'. You will be shown in the lab how to achieve both options.

The below table summaries what you have to submit for your lab exercises:

Lab Exercise Component	To Submit	SQL Script	SQL Output
Multiple-Choice Questions	**No**	N/A	N/A
Hands-On Assignments	**Yes**	**Yes**	**Yes**
Advanced Challenge	**Yes**	**Yes**	**Yes**

Solutions

The solutions for the Hands-On Assignments will be available on Moodle by the end of the due week in which your solutions are collected.

Lab Week 1 HOMEWORK– Part A - Basic SQL SELECT statements

(Due in week 2)

Database

The database used for the questions is JustLee Books database. To determine the exact name of the fields used in tables for these questions, refer to the tables in the database, or use the DESCRIBE tablename command to view the table's structure.

Reference

Casteel Chapter 2, pp. 51-55

Multi-Choice Questions

1. Which of the following SELECT statements displays a list of customer names from the CUSTOMERS table?

   a. SELECT customer names FROM customers;
   b. SELECT "Names" FROM customers;
   c. SELECT firstname, lastname FROM customers;
   d. SELECT firstname, lastname, FROM customers;
   e. SELECT firstname, lastname, "Customer Names" FROM customers;

3. Which of the following is not a valid SELECT statement?

   a. SELECT lastname, firstname FROM customers;
   b. SELECT * FROM orders;
   c. Select FirstName NAME from CUSTOMERS;
   d. SELECT lastname Last Name FROM customers;

5. Which of the following SELECT statements returns all fields in the ORDERS table?

   a. SELECT customer#, order#, orderdate, shipped, address FROM orders;
   b. SELECT * FROM orders;
   c. SELECT ? FROM orders;
   d. SELECT ALL FROM orders;

7. Which of the following is a valid SELECT statement?

   a. SELECT TITLES * TITLE! FROM BOOKS;
   b. SELECT "customer#" FROM books;
   c. SELECT title AS "Book Title" from books;
   d. all of the above

9. Which of the following is not a valid SELECT statement?

   a. SELECT cost-retail FROM books;
   b. SELECT retail+cost FROM books;
   c. SELECT retail * retail * retail FROM books;
   d. SELECT retail^3 from books;

Hands-On Assignments

2. Display a list of all data contained in the BOOKS table.
3. List the title and publication date for each book in the BOOKS table. Use the column heading "Publication Date" for the Pubdate field.
5. Create a list containing the publisher's name, the person usually contacted, and the publisher's telephone number. Rename the contact column "Contact Person" in the displayed results. (Hint: Use the PUBLISHER table.)
7. List the customer number from the ORDERS table for each customer who has placed an order with the bookstore. List each customer number only once.
9. Create a list of authors that displays the last name followed by the first name for each author. The last names and first names should be separated by a comma and a blank space.
10. List all information for each order item. Include an item total, which can be calculated by multiplying the Quantity and Paideach columns. Use a column alias for the calculated value to show the heading "Item Total" in the output.

Lab Week 1 HOMEWORK - Part B - Restricting Rows and Sorting Data

(Due in week 2)

Database

The database used for the questions is JustLee Books database. To determine the exact name of the fields used in tables for these questions, refer to the tables in the database, or use the DESCRIBE tablename command to view the table's structure.

Reference

Casteel Chapter 8, pp. 277-281

Multi-Choice Questions

1. Which of the following SQL statements isn't valid?

a. SELECT address || city || state || zip "Address" FROM customers
WHERE lastname = 'SMITH';
b. SELECT * FROM publisher ORDER BY contact;
c. SELECT address, city, state, zip FROM customers
WHERE lastname = "SMITH";
d. All the above statements are valid and return the expected results.

3. Which of the following SQL statements is valid?

a. SELECT order# FROM orders WHERE shipdate = NULL;
b. SELECT order# FROM orders WHERE shipdate = 'NULL';
c. SELECT order# FROM orders WHERE shipdate = "NULL";
d. None of the statements are valid.

5. Which of the following doesn't return a customer with the last name THOMPSON in the query results?

a. SELECT lastname FROM customers WHERE lastname = "THOMPSON";
b. SELECT * FROM customers;
c. SELECT lastname FROM customers WHERE lastname > 'R';
d. SELECT * FROM customers WHERE lastname < 'V';

7. What's the default sort sequence for the ORDER BY clause?

a. ascending
b. descending
c. the order in which records are stored in the table
d. There's no default sort sequence.

9. Which of the following includes a customer with the first name BONITA in the results?

a. SELECT * FROM customers WHERE firstname = 'B%';
b. SELECT * FROM customers WHERE firstname LIKE '%N%';
c. SELECT * FROM customers WHERE firstname = '%N%';
d. SELECT * FROM customers WHERE firstname LIKE '_B%';

Hands-On Assignments

2. List each customer's last name, first name, and state.
3. Which books aren't in the Fitness category? List each book title and category.
5. Which orders were placed on or before April 1, 2009? List each order number and order date. Write this query two different ways.
7. List all customers who were referred to the bookstore by another customer. List each customer's last name and the number of the customer who made the referral.
9. Use a search pattern to find any book title with "A" for the second letter and "N" for the fourth letter. List each book's ISBN and title. Sort the list by title in descending order.
10. List the title and publish date of any computer book published in 2005. Perform the task of searching for the publish date by using three different methods: a) a range operator, b) a logical operator, and c) a search pattern operation.

Lab Week 4 HOMEWORK Selected Single-Row Functions

(Due in week 5)

Database

The database used for the questions is JustLee Books database. To determine the exact name of the fields used in tables for these questions, refer to the tables in the database, or use the DESCRIBE tablename command to view the table's structure.

Reference

Casteel Chapter 10, pp. 377-381

Multi-Choice Questions

1. Which of the following is a valid SQL statement?

a. SELECT SYSDATE;
b. SELECT UPPER(Hello) FROM dual;
c. SELECT TO_CHAR(SYSDATE, 'Month DD, YYYY')
FROM dual;
d. all of the above
e. none of the above

3. Which of the following determines how long ago orders that haven't shipped were received?

a. SELECT order#, shipdate-orderdate delay FROM orders;
b. SELECT order#, SYSDATE – orderdate FROM orders
WHERE shipdate IS NULL;
c. SELECT order#, NVL(shipdate, 0) FROM orders
WHERE orderdate is NULL;
d. SELECT order#, NULL(shipdate) FROM orders;

5. Which of the following functions can be used to substitute a value for a NULL value?

a. NVL
b. TRUNC
c. NVL2
d. SUBSTR
e. both a and d
f. both a and c

9. Which of the following displays the order date for order 1000 as 03/31?

a. SELECT TO_CHAR(orderdate, 'MM/DD')
FROM orders
WHERE order# = 1000;
b. SELECT TO_CHAR(orderdate, 'Mth/DD')
FROM orders
WHERE order# = 1000;
c. SELECT TO_CHAR(orderdate, 'MONTH/YY')
FROM orders
WHERE order# = 1000;
d. both a and b
e. none of the above

11. Which of the following SQL statements is not valid?

a. SELECT TO_CHAR(orderdate,'99/9999')
   FROM orders;
b. SELECT INITCAP(firstname), UPPER(lastname)
   FROM customers;
c. SELECT cost, retail, TO_CHAR(retail-cost, '$999.99')profit
   FROM books;
d. all of the above

Hands-On Assignments

2. Produce a list of all customer names in which the first letter of the first and last names is in uppercase and the rest are in lowercase.
3. Create a list of all customer numbers along with text indicating whether the customer has been referred by another customer. Display the text "NOT REFERRED" if the customer wasn't referred to JustLee Books by another customer or "REFERRED" if the customer was referred.
4. Determine the amount of total profit generated by the book purchased on order 1002. Display the book title and profit. The profit should be formatted to display a dollar sign and two decimal places. Take into account that the customer might not pay the full retail price, and each item ordered can involve multiple copies.
8. Using today's date, determine the age (in months) of each book that JustLee sells. Make sure only whole months are displayed; ignore any portions of months. Display the book title, publication date, current date, and age.
9. Determine the calendar date of the next occurrence of Wednesday, based on today's date.

Lab Week 5 HOMEWORK Joining Data from Multiple Tables

(Due in week 7)

Database

The database used for the questions is JustLee Books database. To determine the exact name of the fields used in tables for these questions, refer to the tables in the database, or use the DESCRIBE tablename command to view the table's structure.

Reference

Casteel Chapter 9, pp. 323-330

Multi-Choice Questions

1. Which of the following queries creates a Cartesian join?

a. SELECT title, authored FROM books, bookauthor;
b. SELECT title, name FROM books CROSS JOIN publisher;
c. SELECT title, gift FROM books NATURAL JOIN promotion;
d. all of the above

3. Which of the following queries contains an equality join?

a. SELECT title, authored FROM books, bookauthor
   WHERE books.isbn = bookauthor.isbn AND retail > 20;
b. SELECT title, name FROM books CROSS JOIN publisher;
c. SELECT title, gift FROM books, promotion
   WHERE retail >= minretail AND retail <= maxretail;
d. none of the above

4. Which of the following queries contains a non-equality join?

a. SELECT title, authorid
   FROM books, bookauthor
   WHERE books.isbn = bookauthor.isbn AND retail > 20;
b. SELECT title, name
   FROM books JOIN publisher
   USING (pubid);
c. SELECT title, gift
   FROM books, promotion
   WHERE retail >= minretail AND retail <= maxretail;
d. none of the above

6. Which of the following queries is valid?

a. SELECT b.title, b.retail, o.quantity
   FROM books b NATURAL JOIN orders od
      NATURAL JOIN orderitems O WHERE od.order# = 1005;
b. SELECT b.title, b.retail, o.quantity
   FROM books b, orders od, orderitems o
   WHERE orders.order# = orderitems.order#
      AND orderitems.isbn=books.isbn AND od.order#=1005;
c. SELECT b.title, b.retail, o.quantity
   FROM books b, orderitems o
   WHERE o.isbn = b.isbn AND o.order#=1005;

d. none of the above

Hands-On Assignments

Note: You only need to generate the SQL statement using **the JOIN keyword** and **not using the 'traditional' approach**. Apply table aliases in all queries.

2. 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.
3. Produce a list of all customers who live in the state of Florida and have ordered books about computers.
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.
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.
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.
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.

Advanced Challenge

The Marketing Department of JustLee Books is preparing for its annual sales promotion. Each customer who places an order during the promotion will receive a free gift with each book purchased. Each gift will be based on the book's retail price. JustLee Books also participates in co-op advertising programs with certain publishers. If the publisher's name is included in advertisements, JustLee Books is reimbursed a certain percentage of the advertisement costs. To determine the projected costs of this year's sales promotion, the Marketing Department needs the publisher's name, profit amount, and free gift description for each book in the JustLee Books inventory.

Also, the Marketing Department is analyzing books that don't sell. A list of ISBNs for allbooks with no sales recorded is needed. Use a set operation to complete this task.

Create a document that includes a synopsis of these requests, the necessary SQL statements, and the output requested by the Marketing Department.

Lab Week 6 Flexibility Week

Lab Week 7 HOMEWORK Table Creation, Constraints and Management

(Due in week 8)

Database

The database used for the questions is JustLee Books database. To determine the exact name of the fields used in tables for these questions, refer to the tables in the database, or use the DESCRIBE tablename command to view the table's structure.

Reference

Casteel Chapter 3, pp. 90-95 and Chapter 4, pp. 129-134

Multi-Choice Questions

2. Which of the following is a valid SQL statement?

a. ALTER TABLE secustomersspent ADD DATE lastorder;
b. ALTER TABLE secustomerorders DROP retail;
c. CREATE TABLE newtable AS (SELECT * FROM customers);
d. ALTER TABLE drop column *;

5. Which of the following is true?

a. If you truncate a table, you can't add new data to the table.
b. If you change the default value of an existing column, all existing rows containing a NULL value in the same column are set to the new DEFAULT value.
c. If you delete a column from a table, you can't add a column to the table with the same name as the previously deleted column.
d. If you add a column to an existing table, it's always added as the last column of the table.

8. Which of the following statements is correct?

a. A table can contain a maximum of only one column marked as unused.
b. You can delete a table by removing all columns in the table.
c. Using the SET UNUSED clause allows you to free up storage space used by a column.
d. None of the above statements are correct.

14. Which of the following is true?

a. All data in a table can be recovered if the table is dropped with the PURGE option.
b. All data in a table can be recovered from the recycle bin if the table is dropped.
c. All data in a table is lost if the table is dropped.
d. All of the above statements are true.

16. Which of the following commands creates a new table containing two columns?

a. CREATE TABLE newname (col1 DATE, col2 VARCHAR2);
b. CREATE TABLE newname AS (SELECT title, retail, cost FROM books);
c. CREATE TABLE newname (col1, col2);
d. CREATE TABLE newname (col1 DATE DEFAULT SYSDATE, col2 VARCHAR2(1));

Hands-On Assignments

Chapter 3

1. Create a new table containing the category code and description for the categories of books sold by JustLee Books. The table should be called CATEGORY, and the columns should be CatCode and CatDesc. The CatCode column should store a maximum of 2 characters, and the CatDesc column should store a maximum of 10 characters.

2. Create a new table containing these four columns: Emp#, Lastname, Firstname, and Job_class. The table name should be EMPLOYEES. The Job_class column should be able to store character strings up to a maximum length of four, but the column values shouldn't be padded if the value has less than four characters. The Emp# column contains a numeric ID and should allow a five-digit number. Use column sizes you consider suitable for the Firstname and Lastname columns.

3. Add two columns to the EMPLOYEES table. One column, named EmpDate, contains the date of employment for each employee, and its default value should be the system date. The second column, named EndDate, contains employees' date of termination.

4. Modify the Job_class column of the EMPLOYEES table so that it allows storing a maximum width of two characters.

5. Delete the EndDate column from the EMPLOYEES table.

6. Rename the EMPLOYEES table as JL_EMPS.

Chapter 4

1. Modify the following SQL command so that the Rep_ID column is the PRIMARY KEY for the table and the default value of Y is assigned to the Comm column. (The Comm column indicates whether the sales representative earns commission.)

```
CREATE TABLE store_reps
(rep_ID NUMBER(5),
last VARCHAR2(15),
first VARCHAR2(10),
comm CHAR(1) );
```

2. Change the STORE_REPS table so that NULL values can't be entered in the name columns (First and Last).

3. Change the STORE_REPS table so that only a Y or N can be entered in the Comm column.

4. Add a column named Base_salary with a datatype of NUMBER(7,2) to the STORE_REPS table. Ensure that the amount entered is above zero.

5. Create a table named BOOK_STORES to include the columns listed in the following chart:

Column Name	Datatype	Constraint Comments
Store_ID	NUMBER(8)	PRIMARY KEY column
Name	VARCHAR2(30)	Should be UNIQUE and NOT NULL
Contact	VARCHAR2(30)	
Rep_ID	VARCHAR2(5)	

6. Add a constraint to make sure the Rep_ID value entered in the BOOK_STORES table is a valid value contained in the STORE_REPS table. The Rep_ID columns of both tables were initially created as different datatypes. Does this cause an error when adding the constraint?

Make table modifications as needed so that you can add the required constraint.

Lab Week 8A HOMEWORK Data Manipulation Language (DML)

(Due in week 9)

Database

The database used for the questions is JustLee Books database. To determine the exact name of the fields used in tables for these questions, refer to the tables in the database, or use the DESCRIBE tablename command to view the table's structure.

Reference

Casteel Chapter 5, pp. 167-172

Multi-Choice Questions

4.Which of the following statements deletes all rows in the HOMEWORK10 table?

a. DELETE * FROM homework10;
b. DELETE *.* FROM homework10;
c. DELETE FROM homework10;
d. DELETE FROM homework10 WHERE amid = '*';
e. Both c and d delete all rows in the HOMEWORK10 table.

6. Assuming the HOMEWORK10 table has three columns (Col1, Col2, and Col3, in this order), which of the following commands stores a NULL value in Col3 of the HOMEWORK10 table?

a. INSERT INTO homework10 VALUES ('A', 'B', 'C');
b. INSERT INTO homework10 (col3, col1, col2) VALUES (NULL, 'A', 'B');
c. INSERT INTO homework10 VALUES (NULL, 'A', 'B');
d. UPDATE homework10 SET col1 = col3;

10. You issue the following command: INSERT INTO homework10 (col1, col2, col3) VALUES ('A', NULL, 'C'). The command will fail if which of the following statements is true?

a. Col1 has a PRIMARY KEY constraint enabled.
b. Col2 has a UNIQUE constraint enabled.
c. Col3 is defined as a DATE column.
d. None of the above would cause the command to fail.

Hands-On Assignments

Attempting the following questions:

- Add a new row in the ORDERS table with the following data: Order# = 1021, Customer# = 1009, and Order date = July 20, 2009.
- Modify the zip code on order 1017 to 33222.
- Commit
- Add a new row in the ORDERS table with the following data: Order# = 1022, Customer# = 2000, and Order date = August 6, 2009. Describe the error raised and what caused the error.
- Delete Order# 1005. You need to address both the master order record and the related detail records.

Lab Week 8B HOMEWORK Group Functions

(Due in week 9)

Database

The database used for the questions is JustLee Books database. To determine the exact name of the fields used in tables for these questions, refer to the tables in the database, or use the DESCRIBE tablename command to view the table's structure.

Reference

Casteel Chapter 11, pp. 420-425

Multi-Choice Questions

2. Which of the following is a valid SELECT statement?

a. SELECT AVG(retail-cost)
   FROM books
   GROUP BY category;
b. SELECT category, AVG(retail-cost)
   FROM books;
c. SELECT category, AVG(retail-cost)
   FROM books
   WHERE AVG(retail-cost) > 8.56
   GROUP BY category;
d. SELECT category, AVG(retail-cost) Profit
   FROM books
   GROUP BY category
   HAVING profit > 8.56;

3. Which of the following statements is correct?

a. The WHERE clause can contain a group function only if the function isn't also listed in the SELECT clause.
b. Group functions can't be used in the SELECT, FROM, or WHERE clauses.
c. The HAVING clause is always processed before the WHERE clause.
d. The GROUP BY clause is always processed before the HAVING clause.

4. Which of the following is not a valid SQL statement?

a. SELECT MIN(pubdate)
   FROM books
   GROUP BY category
   HAVING pubid = 4;
b. SELECT MIN(pubdate)
   FROM books
   WHERE category = 'COOKING';
c. SELECT COUNT(*)
   FROM orders
   WHERE customer# = 1005;
d. SELECT MAX(COUNT(customer#))
   FROM orders
   GROUP BY customer#;

6. Which of the following is a valid SQL statement?

a. SELECT customer#, order#, MAX(shipdate-orderdate)
   FROM orders
   GROUP BY customer#

WHERE customer# = 1001;

b. SELECT customer#, COUNT(order#)
FROM orders
GROUP BY customer#;

c. SELECT customer#, COUNT(order#)
FROM orders
GROUP BY COUNT(order#);

d. SELECT customer#, COUNT(order#)
FROM orders
GROUP BY order#;

7. Which of the following SELECT statements lists only the book with the largest profit?

a. SELECT title, MAX(retail-cost)
FROM books
GROUP BY title;

b. SELECT title, MAX(retail-cost)
FROM books
GROUP BY title
HAVING MAX(retail-cost);

c. SELECT title, MAX(retail-cost)
FROM books;

d. none of the above

Hands-On Assignments

- Determine how many books are in the Cooking category.
- Display the number of books with a retail price of more than $30.00.
- Determine the total profit generated by sales to customer 1017. Note: Quantity should be reflected in the total profit calculation.
- Determine the average profit generated by orders in the ORDERS table. Note: The total profit by order must be calculated before finding the average profit.
- Determine the average retail price of books by publisher name and category. Include only the categories Children and Computer and the groups with an average retail price greater than $50.
- List the customers living in Georgia or Florida who have recently placed an order totalling more than $80.

Lab Week 9 HOMEWORK Subqueries and Merge Statements

(Due in week 10)

Database

The database used for the questions is JustLee Books database. To determine the exact name of the fields used in tables for these questions, refer to the tables in the database, or use the DESCRIBE tablename command to view the table's structure.

Reference

Casteel Chapter 12, pp. 462-468

Multi-Choice Questions

1. Which query identifies customers living in the same state as the customer named Leila Smith?

a. SELECT customer# FROM customers
WHERE state = (SELECT state FROM customers
WHERE lastname = 'SMITH');
b. SELECT customer# FROM customers
WHERE state = (SELECT state FROM customers
WHERE lastname = 'SMITH'
OR firstname = 'LEILA');
c. SELECT customer# FROM customers
WHERE state = (SELECT state FROM customers
WHERE lastname = 'SMITH'
AND firstname = 'LEILA'
ORDER BY customer);
d. SELECT customer# FROM customers
WHERE state = (SELECT state FROM customers
WHERE lastname = 'SMITH'
AND firstname = 'LEILA');

2. Which of the following is a valid SELECT statement?

a. SELECT order# FROM orders
WHERE shipdate = SELECT shipdate FROM orders
WHERE order# = 1010;
b. SELECT order# FROM orders
WHERE shipdate = (SELECT shipdate FROM orders)
AND order# = 1010;
c. SELECT order# FROM orders
WHERE shipdate = (SELECT shipdate FROM orders
WHERE order# = 1010);
d. SELECT order# FROM orders
HAVING shipdate = (SELECT shipdate FROM orders
WHERE order# = 1010);

4. Which of the following queries determines which customers have ordered the same books as customer 1017?

a. SELECT order# FROM orders
WHERE customer# = 1017;
b. SELECT customer# FROM orders
JOIN orderitems USING(order#)
WHERE isbn = (SELECT isbn FROM orderitems
WHERE customer# = 1017);

c. SELECT customer# FROM orders
WHERE order# = (SELECT order# FROM orderitems
WHERE customer# = 1017);
d. SELECT customer# FROM orders
JOIN orderitems USING(order#)
WHERE isbn IN (SELECT isbn FROM orderitems
JOIN orders USING(order#)
WHERE customer# = 1017);

6. Which of the following statements is correct?

a. If a subquery is used in the outer query's FROM clause, the data in the temporary table can't be referenced by clauses used in the outer query.
b. The temporary table created by a subquery in the outer query's FROM clause must be assigned a table alias, or it can't be joined with another table by using the JOIN keyword.
c. If a temporary table is created through a subquery in the outer query's FROM clause, the data in the temporary table can be referenced by another clause in the outer query.
d. none of the above

9. Which of the following queries identifies customers who have ordered the same books as customers 1001 and 1005?

a. SELECT customer# FROM orders
JOIN books USING(isbn)
WHERE isbn = (SELECT isbn FROM orderitems
JOIN books USING(isbn)
WHERE customer# = 1001 OR customer# = 1005));
b. SELECT customer# FROM orders
JOIN books USING(isbn)
WHERE isbn <ANY (SELECT isbn FROM orderitems
JOIN books USING(isbn)
WHERE customer# = 1001 OR customer# = 1005));
c. SELECT customer# FROM orders
JOIN books USING(isbn)
WHERE isbn = (SELECT isbn FROM orderitems
JOIN orders USING(order#)
WHERE customer# = 1001 OR 1005));
d. SELECT customer# FROM orders
JOIN orderitems USING(order#)
WHERE isbn IN (SELECT isbn FROM orders
JOIN orderitems USING(order#)
WHERE customer# IN (1001, 1005));

Hands-On Assignments

- List the book title and retail price for all books with a retail price lower than the average retail price of all books sold by JustLee Books.
- Determine which books cost less than the average cost of other books in the same category.
- Determine which orders were shipped to the same state as order 1014.
- Determine which orders had a higher total amount due than order 1008.
- Determine which author or authors wrote the books most frequently purchased by customers of JustLee Books.