Using W3Schools.com and SQLZoo.Net as resources, complete the following lab.

Ray Henry is the owner of a bookstore chain named Henry Books. Ray has decided to store his data in a SQL 2005 database. He wants to ensure his data is safe, current, and accurate. He would also like to be able to ask questions concerning his data and have you obtain the answers for him quickly and concisely. A new database has been completed and all of his data has been imported into this new database. You; as the companies super database guru/king; are tasked with attaching this new database to your system and answering the questions Mr. Henry has asked.

Attach the HENRY database. Write the SQL query that answers the following scenarios.

1. List the book code and book title of each book. (33 Rows)

SELECT book\_code, book\_title

FROM books;

1. List the complete PUBLISHER table. (28 rows)

SELECT \* FROM publishers

1. List the name of each publisher located in Boston. (2 rows)

SELECT publisher\_name

FROM publishers

WHERE publisher\_city = 'Boston';

1. List the name of each publisher not located in Boston. (26 rows)

SELECT publisher\_name

FROM publishers

WHERE publisher\_city != 'Boston';

1. List the name of each branch that has at least nine employees. (3 rows)

SELECT branch\_name

FROM branches

WHERE branch\_emps >= 9;

1. List the book code and book title of each book that has the type SFI. (3 rows)

SELECT book\_code, book\_title

FROM books

WHERE book\_type = 'SFI';

1. List the book code and book title of each book that has the type SFI and is in paperback. (1 row)

SELECT book\_code, book\_title

FROM books

WHERE book\_type = 'SFI' and book\_paperback = 'Y';

1. List the book code and book title of each book that has the type SFI or is published by the publisher with code SC. (5 rows)

SELECT book\_code, book\_title

FROM books

WHERE book\_type = 'SFI' or publisher\_code = 'sc';

1. List the book code, book title, and price of each book with a price between $20 and $30. (4 rows)

SELECT book\_code, book\_title, book\_price

FROM books

WHERE book\_price >= 20 and book\_price <= 30;

1. List the book code and book title of each book that has the type MYS and a price of less than $20. (2 rows)

SELECT book\_code, book\_title

FROM books

WHERE book\_type = 'MYS' and book\_price < 20;

1. Customers who are part of a special program get a 10% discount off regular book prices. List the book code, book title, and discounted price for each book. Use discounted\_price as the name for the computed column, which should calculate 90% of the current price; that is, 100% less a 10% discount. (33 rows)

SELECT book\_code, book\_title, book\_price, ROUND(book\_price \* 0.9,2) AS Discounted\_Price

FROM books;

1. Find the name of each publisher containing the word “and”. (4 rows)

SELECT publisher\_name

FROM publishers

WHERE publisher\_name LIKE '%and%';

1. List the book code and book title of each book that has the type SFI, MYS, or ART. (9 rows)

SELECT book\_code, book\_title

FROM books

WHERE book\_type IN ('SFI','MYS','ART');

1. Same as #13 only list the books in alphabetical order by title. (9 rows)

SELECT book\_code, book\_title

FROM books

WHERE book\_type IN ('SFI','MYS','ART')

ORDER BY book\_title;

1. Same as #13 but also include the price and list the books in descending order by price. Within a group of books having the same price, further order by book title. (9 rows)

SELECT book\_code, book\_title, book\_price

FROM books

WHERE book\_type IN ('SFI','MYS','ART')

ORDER BY book\_price DESC, book\_title;

1. Display the list of book types in the database. List each book type only once. (12 rows)

SELECT DISTINCT book\_type

FROM books

1. How many books have the type SFI? (write sql to produce the answer of 3)

SELECT COUNT(\*)

FROM books

WHERE book\_type = 'SFI';

1. For each type of book, list the type and the average price. (Research: GROUP BY - 12 rows)

SELECT book\_type, AVG(book\_price) AS Average\_Price

FROM books

GROUP BY book\_type;

1. Same as #18, but consider only paperback books. (10 rows)

SELECT book\_type, AVG(book\_price) AS Average\_Price

FROM books

WHERE book\_paperback = 'Y'

GROUP BY book\_type;

1. Same as #18, but consider only paperback books for those types which the average price is more than $10. (Research: HAVING. 3 rows)

SELECT book\_type, AVG(book\_price) AS Average\_Price

FROM books

WHERE book\_paperback = 'Y'

GROUP BY book\_type;

HAVING AVG(book\_price) > 10;

1. What is the most expensive book in the database? (Nested Select - 1 row)

SELECT \*

FROM books

WHERE book\_price = (SELECT MAX(book\_price) FROM books);

1. What are the title(s)/price(s) of the least expensive book(s) in the DB? (3 rows)

SELECT book\_code, book\_title, book\_price

FROM books

WHERE book\_price = (SELECT MIN(book\_price) FROM books);

1. How many employees does Henry Books have?

SELECT SUM(branch\_emps) AS Total\_Employees

FROM branches;

**Multiple Table**

1. For each book, list the book code, book title, publisher code, and the publisher name. Order the results by publisher name. (33 rows)

SELECT b.book\_code, b.book\_title, b.publisher\_code, p.publisher\_name

FROM books b

INNER JOIN publishers p

ON b.publisher\_code = p.publisher\_code;

1. For each book published by Plume, list the book code, book title, and price. (3 rows)

SELECT book\_code, book\_title, book\_price

FROM books

WHERE publisher\_code = 'PL';

1. List the book title, book code, and price of each book published by Plume that has a book price of at least $14. (1 row)

SELECT book\_code, book\_title, book\_price

FROM books

WHERE publisher\_code = 'PL' and book\_price >= 14;

1. List the book code, book title, and units on hand for each book in branch number 4. (9 rows)

SELECT b.book\_code, b.book\_title, i.on\_hand

FROM books b

INNER JOIN inventory i

ON b.book\_code = i.book\_code

WHERE branch\_number = 4;

1. List the book title for each book that has the type PSY and that is published by Jove Publications. (1 row)

SELECT book\_title

FROM books

WHERE book\_type = 'PSY'

AND publisher\_code =

(SELECT publisher\_code FROM publishers WHERE publisher\_name = 'Jove Publications');

1. Find the book title for each book written by author number 18. Use the IN operator in your formulation. (2 rows)

SELECT b.book\_title

FROM books b

INNER JOIN wrote w

ON b.book\_code = w.book\_code

WHERE w.author\_number = 18;

1. Repeat exercise 6 but use the EXISTS operator. (2 rows)

SELECT b.book\_title

FROM books b

WHERE EXISTS

(SELECT 1 FROM wrote w

WHERE w.book\_code = b.book\_code AND w.author\_number = 18);

1. Find the book codes and book title for each book located in branch number 2 and written by author 20. (1 row)

SELECT b.book\_code, b.book\_title

FROM books b

INNER JOIN inventory i

ON b.book\_code = i.book\_code

WHERE i.branch\_number = 2

AND b.book\_code IN

(SELECT w.book\_code FROM wrote w WHERE w.author\_number = 20);

1. List book codes for each pair of books that have the same price. (on such pair would be book 0200 and book 7559 because the price of both books is $8.00) Sort the results by first book code and then by second book code. (11 rows)

SELECT b1.book\_code AS book\_code1,

b2.book\_code AS book\_code2

FROM books b1, books b2

WHERE b1.book\_code < b2.book\_code

AND b1.book\_price = b2.book\_price

ORDER BY b1.book\_code, b2.book\_code;

1. Find the book title, author last name, and units on hand for each book in branch number 4. (10 rows)

SELECT b.book\_title, a.author\_last, i.on\_hand

FROM books b

INNER JOIN wrote w ON b.book\_code = w.book\_code

INNER JOIN authors a ON w.author\_number = a.author\_number

INNER JOIN inventory i ON b.book\_code = i.book\_code

WHERE i.branch\_number = 4;

1. Repeat exercise 10 but list only paperback books. (4 rows)

SELECT b.book\_title, a.author\_last, i.on\_hand

FROM books b

INNER JOIN wrote w ON b.book\_code = w.book\_code

INNER JOIN authors a ON w.author\_number = a.author\_number

INNER JOIN inventory i ON b.book\_code = i.book\_code

WHERE i.branch\_number = 4

AND b.book\_paperback = 'Y';

1. Find the book code and book title for each book whose price is more than $10 and that was published in Boston. (Research Union keyword. 20 rows)

SELECT b.book\_code, b.book\_title

FROM books b

INNER JOIN publishers p on b.publisher\_code = p.publisher\_code

WHERE book\_price > 10

AND publisher\_city = 'Boston';

1. Find the book code and book title for each book whose price is more than $10 and that was not published in Boston. (18 rows)

SELECT b.book\_code, b.book\_title

FROM books b

INNER JOIN publishers p on b.publisher\_code = p.publisher\_code

WHERE book\_price > 10

AND publisher\_city != 'Boston';

1. Find the book code and book title for each book whose price is greater than the book price for every book that has the type HOR. (5 rows)

SELECT book\_code, book\_title, book\_price

FROM books

WHERE book\_price > ALL

(SELECT book\_price FROM books WHERE book\_type = 'HOR');

1. Find the book code and book title for each book whose price is greater than the price of at least one book that has the type HOR. (23 rows)

SELECT book\_code, book\_title, book\_price

FROM books

WHERE book\_price > ALL

(SELECT book\_price FROM books WHERE book\_type = 'HOR');

1. List the book code, book title, and units on hand for each book in branch number 2. Be sure each book is included, regardless of whether there are copies of the book currently on hand in branch 2. Order the output by book code. (Research Left Join: 33 rows)

SELECT b.book\_code, b.book\_title, COALESCE(i.on\_hand, 0) AS ONHAND

FROM books b

LEFT JOIN inventory i ON b.book\_code = i.book\_code

AND i.branch\_number = 2

ORDER BY b.book\_code;