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SQL Project
CS300
Database Management Systems
Spring 2019

Queries

1. Retrieve the first name and last name of each author in the author relation. Order does not matter. **(1 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT firstName,lastName
   FROM authors;

   Output:
   # firstName, lastName
   'Toni', 'Morrison'
   'Paul', 'Solotaroff'
   'Vernor', 'Vintage'
   'Dick', 'Francis'
   'Peter', 'Straub'
   'Stephen', 'King'
   'Philip', 'Pratt'
   'Truddi', 'Chase'
   'Bradley', 'Collins'
   'Joseph', 'Heller'
   'Gary', 'Wills'
   'Douglas R.', 'Hofstadter'
   'Harper', 'Lee'
   'Stephen E.', 'Ambrose'
   'J.K.', 'Rowling'
   'J.D.', 'Salinger'
   'Seamus', 'Heaney'
   'Albert', 'Camus'
   'Bradley', 'Collins, Jr.'
   'John', 'Steinbeck'
   'Riva', 'Castelman'
   'Barbara', 'Owen'
   'Randy', 'O\'Rourke'
   'Tracy', 'Kidder'
   'Lon', 'Schleining'

2. Retrieve the title and book type in the book relation. Order does not matter. **(1 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT title,TYPE
   FROM book;

Output:
title, TYPE
'Godel, Escher, Bach', 'PHI'
'Group: Six People in Search of a Life', 'PSY'
'The Soul of a New Machine', 'SCI'
'Magic Terror', 'HOR'
'Electric Light', 'POE'
'To Kill a Mockingbird', 'FIC'
'When Rabbit Howls', 'PSY'
'Slay Ride', 'MYS'
'Nine Stories', 'FIC'
'Franny and Zooey', 'FIC'
'The Catcher in the Rye', 'FIC'
'Of Mice and Men', 'FIC'
'Travels with Charley', 'TRA'
'East of Eden', 'FIC'
'The Grapes of Wrath', 'FIC'
'Jazz', 'FIC'
'Song of Solomon', 'FIC'
'Black House', 'HOR'
'Dreamcatcher: A Novel', 'HOR'
'Catch-22', 'FIC'
'Venice', 'ART'
'Harry Potter and the Prisoner of Azkaban', 'SFI'
'Harry Potter and the Goblet of Fire', 'SFI'
'Treasure Chests', 'ART'
'A Deepness in the Sky', 'SFI'
'The Stranger', 'FIC'
'The Fall', 'FIC'
'Van Gogh and Gauguin', 'ART'
'The Edge', ''
'Band of Brothers', ''

3. Retrieve the publisherCode in the book relation. List each publisherCode only once in the result. Order does not matter. **(1 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT DISTINCT publisherCode
   FROM book;

   Output:
   # publisherCode
   'BA'
   'BP'
   'BY'
   'FA'
   'FS'
   'HC'
   'JP'

'LB'
'PE'
'PL'
'RH'
'SC'
'SS'
'ST'
'TA'
'TB'
'VB'
'WP'
'TO'

4. Retrieve the title and price of each book in the book relation. Further add a calculated column named 'discount' that shows the price of the book with 25% discount. Order does not matter. Show the first five rows of the result. **(2 points)**

    Answer:
    SQL Statement:
    use henry_book_records;
    SELECT title, price, price*0.25 as discount
    FROM book
    LIMIT 5;

    Output:
    # title, price, discount
    'Godel, Escher, Bach', '14', '3.5'
    'Group: Six People in Search of a Life', '10.4', '2.6'
    'The Soul of a New Machine', '11.16', '2.79'
    'Magic Terror', '7.99', '1.9975'
    'Electric Light', '14', '3.5'

5. Retrieve the title and price for any book whose price is higher than $20.00 in the book relation. Show the full result. **(2 points)**

    Answer:
    SQL Statement:
    use henry_book_records;
    SELECT title, price
    FROM book
    WHERE price > 20;

    Output:
    # title, price
    'Venice', '24.5'
    'Treasure Chests', '24.46'
    'Van Gogh and Gauguin', '21'

6. Retrieve the publisherName of all publishers that are in New York only in the publisher relation. Order does not matter. **(2 points)**

    Answer:

SQL Statement:
use henry_book_records;
SELECT publisherName,city
FROM publishers
WHERE city = 'New York';

Output:
publisherName, city
'Arcade Publishing', 'New York'
'Back Bay books', 'New York'
'Fawcett books', 'New York'
'Farrar Straus and Giroux', 'New York'
'HarperCollins publishers', 'New York'
'Jove Publications', 'New York'
'Lb books', 'New York'
'Penguin USA', 'New York'
'Plume', 'New York'
'Putnam Publishing Group', 'New York'
'Random House', 'New York'
'Schoken books', 'New York'
'Scribner', 'New York'
'Simon and Schuster', 'New York'
'SchoLASTic Trade', 'New York'
'Tor books', 'New York'
'Thames and Hudson', 'New York'
'Vintage books', 'New York'
'W.W. Norton', 'New York'

7. Retrieve the publisherName of all publishers that are not in New York in the publisher relation. (use != for inequality). Order does not matter. Show the full result. **(3 points)**

    Answer:
    SQL Statement:
    use henry_book_records;
    SELECT publisherName,city
    FROM publishers
    WHERE city != 'New York';

    Output:
    # publisherName, city
    'Arkham House', 'Sauk city WI'
    'Basic books', 'Boulder CO'
    'Berkley Publishing', 'Boston'
    'Course Technology', 'Boston'
    'Jeremy P. Tarcher', 'Los Angeles'
    'McPherson and Co.', 'Kingston'
    'Taunton Press', 'Newtown CT'
    'Touchstone books', 'Westport CT'
    'Westview Press', 'Boulder CO'

8. Retrieve the bookCode and onHand for each book for which a branch has between 2 and 4 copies in the inventory relation. **Use the BETWEEN keyword in this query.** Order does not matter. Show the full result. **(3 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT bookCode,onHand
   FROM inventory
   WHERE branchNum BETWEEN 2 AND 4;

   Output:
   # bookCode, onHand
   '189', '2'
   '200', '3'
   '378', '2'
   '808', '1'
   '1351', '4'
   '1351', '2'
   '1382', '1'
   '2226', '2'
   '2226', '1'
   '2281', '3'
   '2766', '2'
   '2908', '1'
   '3743', '1'
   '3906', '1'
   '3906', '2'
   '5790', '2'
   '6128', '4'
   '6128', '3'
   '6328', '2'
   '6908', '2'
   '7405', '2'
   '7443', '1'
   '7559', '2'
   '8092', '1'
   '9627', '5'
   '9627', '2'
   '9701', '1'
   '9701', '3'
   '9701', '2'
   '9882', '3'
   '9883', '3'
   '9883', '2'

9. Retrieve the title and type for each book in the book relation in which the type is SFI, HOR, ART or PSY. **Use the IN operator for this query.** Order the result by type ascending. Show the first five rows of the result. **(3 points)**

   Answer:

SQL Statement:
use henry_book_records;
SELECT title,TYPE
FROM book
WHERE TYPE IN ('SFI', 'HOR', 'ART', 'PSY')
ORDER BY TYPE ASC
LIMIT 5;

Output:
title, TYPE
'Venice', 'ART'
'Treasure Chests', 'ART'
'Van Gogh and Gauguin', 'ART'
'Magic Terror', 'HOR'
'Black House', 'HOR'

10. Retrieve the title for each book in the book relation that begins with the word "The". Order the result by title ascending. Show the full result. **(3 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT title
   FROM book
   WHERE title LIKE 'The%'
   ORDER BY title ASC;

   Output:
   # title
   'The Catcher in the Rye'
   'The Edge'
   'The Fall'
   'The Grapes of Wrath'
   'The Soul of a New Machine'
   'The Stranger'

11. Retrieve the title for each book in the book relation that doesn't have a type. Order the result by title ascending. Show the full result. **(3 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT title,TYPE
   FROM book
   WHERE TYPE IN ('')
   ORDER BY TYPE ASC;

   Output:
   # title, TYPE
   'The Edge', ''
   'Band of Brothers', ''

12. Retrieve all of the columns from the author relation. Order the results by the authors lastName descending. **(3 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT *
   FROM authors
   ORDER BY lastName DESC;

   Output:
   # authorNum, lastName, firstName
   '11', 'Wills', 'Gary'
   '3', 'Vintage', 'Vernor'
   '5', 'Straub', 'Peter'
   '20', 'Steinbeck', 'John'
   '2', 'Solotaroff', 'Paul'
   '25', 'Schleining', 'Lon'
   '16', 'Salinger', 'J.D.'
   '15', 'Rowling', 'J.K.'
   '7', 'Pratt', 'Philip'
   '22', 'Owen', 'Barbara'
   '23', 'O\'Rourke', 'Randy'
   '1', 'Morrison', 'Toni'
   '13', 'Lee', 'Harper'
   '6', 'King', 'Stephen'
   '24', 'Kidder', 'Tracy'
   '12', 'Hofstadter', 'Douglas R.'
   '10', 'Heller', 'Joseph'
   '17', 'Heaney', 'Seamus'
   '4', 'Francis', 'Dick'
   '19', 'Collins, Jr.', 'Bradley'
   '9', 'Collins', 'Bradley'
   '8', 'Chase', 'Truddi'
   '21', 'Castelman', 'Riva'
   '18', 'Camus', 'Albert'
   '14', 'Ambrose', 'Stephen E.'

13. Retrieve the title and type from the book relation. Order the results first by type and then by title. Both sort keys should be ascending order. Show the first five rows of the result. **(3 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT TYPE, title
   FROM book
   ORDER BY TYPE, title ASC
   LIMIT 5;

   Output:
   # TYPE, title
   '', 'Band of Brothers'

", 'The Edge'
'ART', 'Treasure Chests'
'ART', 'Van Gogh and Gauguin'
'ART', 'Venice'

14. Retrieve a count of the number of books published by Penguin USA. Name the column 'Penguin Books'. Order does not matter. Show your full result. **(3 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT count(publisherName) as 'Penguin Books'
   FROM publishers
   WHERE publisherName = 'Penguin USA';

   Output:
   # Penguin Books
   '1'

15. Retrieve the publisherCode and the number of books from the publisher from the book relation. Order the result by the count in descending order. Show the first five rows of the result. **(3 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT publisherCode, count(publisherCode) as numberOfBooks
   FROM book
   GROUP BY publisherCode
   ORDER BY publisherCode DESC
   LIMIT 5;

   Output:
   # publisherCode, numberOfBooks
   'WP', '1'
   'VB', '2'
   'TO', '1'
   'TB', '1'
   'TA', '1'

16. Retrieve the publisherCode and the number of books from that publisher from the book relation. Order the results by publisherCode and only show publishers who have 3 or more books in the relation. **Hint: will need to use the HAVING keyword.** Show your full result. **(3 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT publisherCode, count(publisherCode) as numberOfBooks
   FROM book
   GROUP BY publisherCode
   HAVING numberOfBooks >= 3;

Output:
publisherCode, numberOfBooks
'JP', '3'
'LB', '3'
'PE', '4'

17. Retrieve the number of books in the book relation whose prices are \$20.00 or lower. Order does not matter. Show your full result. **(3 points)**

    Answer:
    SQL Statement:
    use henry_book_records;
    SELECT count(title) as numberOfBooks
    FROM book
    WHERE price <= 20;

    Output:
    # numberOfBooks
    '27'

18. Retrieve the title of the most expensive book in the book relation. Use a subquery for this problem. Show your full result. **(3 points)**

    Answer:
    SQL Statement:
    use henry_book_records;
    SELECT title, price
    FROM book
    WHERE price IN
    (SELECT MAX(price) as expensiveBook
    FROM book);

    Output:
    # title, price
    'Venice', '24.5'

19. Retrieve the title of the least expensive book in the book relation. Use a subquery for this problem. Show your full result. **(3 points)**

    Answer:
    SQL Statement:
    use henry_book_records;
    SELECT title, price
    FROM book
    WHERE price IN
    (SELECT MIN(price) as expensiveBook
    FROM book);

    Output:
    # title, price
    'Nine Stories', '5.99'
    'Franny and Zooey', '5.99'

'The Catcher in the Rye', '5.99'

20. Retrieve the title of all books in the book relation that are not published in New York. Order result by the city ascending. Use a subquery for this query. **(5 points)**

Answer:
SQL Statement:
use henry_book_records;
SELECT title, city
FROM book, publishers
WHERE city IN
      (SELECT city
      FROM publishers
      WHERE city != 'New York')
ORDER BY city ASC;

Output:
title, city
'Slay Ride', 'Boston'
'East of Eden', 'Boston'
'Godel, Escher, Bach', 'Boston'
'Godel, Escher, Bach', 'Boston'
'Band of Brothers', 'Boston'
'The Edge', 'Boston'
'The Edge', 'Boston'
'Jazz', 'Boston'
'Song of Solomon', 'Boston'
'Van Gogh and Gauguin', 'Boston'
'The Catcher in the Rye', 'Boston'
'Group: Six People in Search of a Life', 'Boston'
'Group: Six People in Search of a Life', 'Boston'
'Van Gogh and Gauguin', 'Boston'
'The Fall', 'Boston'
'The Stranger', 'Boston'
'The Stranger', 'Boston'
'East of Eden', 'Boston'
'Catch-22', 'Boston'
'The Grapes of Wrath', 'Boston'
'The Soul of a New Machine', 'Boston'
'The Soul of a New Machine', 'Boston'
'Slay Ride', 'Boston'
'A Deepness in the Sky', 'Boston'
'Travels with Charley', 'Boston'
'Catch-22', 'Boston'
'Travels with Charley', 'Boston'
'Of Mice and Men', 'Boston'
'The Catcher in the Rye', 'Boston'
'Magic Terror', 'Boston'
'Magic Terror', 'Boston'
'A Deepness in the Sky', 'Boston'
'Treasure Chests', 'Boston'
'Black House', 'Boston'

'Franny and Zooey', 'Boston'
'Black House', 'Boston'
'Treasure Chests', 'Boston'
'Franny and Zooey', 'Boston'
'Electric Light', 'Boston'
'Electric Light', 'Boston'
'The Fall', 'Boston'
'Harry Potter and the Goblet of Fire', 'Boston'
'Jazz', 'Boston'
'Harry Potter and the Goblet of Fire', 'Boston'
'Harry Potter and the Prisoner of Azkaban', 'Boston'
'Dreamcatcher: A Novel', 'Boston'
'Nine Stories', 'Boston'
'To Kill a Mockingbird', 'Boston'
'To Kill a Mockingbird', 'Boston'
'Harry Potter and the Prisoner of Azkaban', 'Boston'
'Venice', 'Boston'
'Nine Stories', 'Boston'
'Dreamcatcher: A Novel', 'Boston'
'Of Mice and Men', 'Boston'
'Song of Solomon', 'Boston'
'The Grapes of Wrath', 'Boston'
'When Rabbit Howls', 'Boston'
'When Rabbit Howls', 'Boston'
'Venice', 'Boston'
'Band of Brothers', 'Boston'
'Catch-22', 'Boulder CO'
'Godel, Escher, Bach', 'Boulder CO'
'Group: Six People in Search of a Life', 'Boulder CO'
'Group: Six People in Search of a Life', 'Boulder CO'
'The Soul of a New Machine', 'Boulder CO'
'Electric Light', 'Boulder CO'
'Jazz', 'Boulder CO'
'The Soul of a New Machine', 'Boulder CO'
'Catch-22', 'Boulder CO'
'Magic Terror', 'Boulder CO'
'Band of Brothers', 'Boulder CO'
'Dreamcatcher: A Novel', 'Boulder CO'
'Magic Terror', 'Boulder CO'
'Electric Light', 'Boulder CO'
'To Kill a Mockingbird', 'Boulder CO'
'East of Eden', 'Boulder CO'
'To Kill a Mockingbird', 'Boulder CO'
'Dreamcatcher: A Novel', 'Boulder CO'
'When Rabbit Howls', 'Boulder CO'
'Black House', 'Boulder CO'
'When Rabbit Howls', 'Boulder CO'
'Slay Ride', 'Boulder CO'
'The Grapes of Wrath', 'Boulder CO'
'Slay Ride', 'Boulder CO'
'Nine Stories', 'Boulder CO'
'Black House', 'Boulder CO'

'Nine Stories', 'Boulder CO'
'Song of Solomon', 'Boulder CO'
'Franny and Zooey', 'Boulder CO'
'Franny and Zooey', 'Boulder CO'
'The Fall', 'Boulder CO'
'The Catcher in the Rye', 'Boulder CO'
'The Catcher in the Rye', 'Boulder CO'
'Of Mice and Men', 'Boulder CO'
'Song of Solomon', 'Boulder CO'
'Of Mice and Men', 'Boulder CO'
'Jazz', 'Boulder CO'
'Travels with Charley', 'Boulder CO'
'The Grapes of Wrath', 'Boulder CO'
'Travels with Charley', 'Boulder CO'
'East of Eden', 'Boulder CO'
'Venice', 'Boulder CO'
'Venice', 'Boulder CO'
'Harry Potter and the Prisoner of Azkaban', 'Boulder CO'
'Harry Potter and the Prisoner of Azkaban', 'Boulder CO'
'Harry Potter and the Goblet of Fire', 'Boulder CO'
'Harry Potter and the Goblet of Fire', 'Boulder CO'
'Treasure Chests', 'Boulder CO'
'Treasure Chests', 'Boulder CO'
'A Deepness in the Sky', 'Boulder CO'
'A Deepness in the Sky', 'Boulder CO'
'The Stranger', 'Boulder CO'
'The Stranger', 'Boulder CO'
'The Fall', 'Boulder CO'
'Van Gogh and Gauguin', 'Boulder CO'
'Van Gogh and Gauguin', 'Boulder CO'
'The Edge', 'Boulder CO'
'The Edge', 'Boulder CO'
'Band of Brothers', 'Boulder CO'
'Godel, Escher, Bach', 'Boulder CO'
'When Rabbit Howls', 'Kingston'
'Electric Light', 'Kingston'
'The Soul of a New Machine', 'Kingston'
'To Kill a Mockingbird', 'Kingston'
'Treasure Chests', 'Kingston'
'Venice', 'Kingston'
'Slay Ride', 'Kingston'
'Harry Potter and the Goblet of Fire', 'Kingston'
'A Deepness in the Sky', 'Kingston'
'The Catcher in the Rye', 'Kingston'
'Dreamcatcher: A Novel', 'Kingston'
'Harry Potter and the Prisoner of Azkaban', 'Kingston'
'Of Mice and Men', 'Kingston'
'The Grapes of Wrath', 'Kingston'
'Magic Terror', 'Kingston'
'East of Eden', 'Kingston'
'The Stranger', 'Kingston'
'Group: Six People in Search of a Life', 'Kingston'

'The Fall', 'Kingston'
'Travels with Charley', 'Kingston'
'Song of Solomon', 'Kingston'
'Catch-22', 'Kingston'
'The Edge', 'Kingston'
'Van Gogh and Gauguin', 'Kingston'
'Jazz', 'Kingston'
'Nine Stories', 'Kingston'
'Godel, Escher, Bach', 'Kingston'
'Franny and Zooey', 'Kingston'
'Black House', 'Kingston'
'Band of Brothers', 'Kingston'
'Of Mice and Men', 'Los Angeles'
'Black House', 'Los Angeles'
'Catch-22', 'Los Angeles'
'Nine Stories', 'Los Angeles'
'The Stranger', 'Los Angeles'
'When Rabbit Howls', 'Los Angeles'
'Travels with Charley', 'Los Angeles'
'Song of Solomon', 'Los Angeles'
'Venice', 'Los Angeles'
'The Fall', 'Los Angeles'
'To Kill a Mockingbird', 'Los Angeles'
'The Soul of a New Machine', 'Los Angeles'
'Harry Potter and the Prisoner of Azkaban', 'Los Angeles'
'Group: Six People in Search of a Life', 'Los Angeles'
'Dreamcatcher: A Novel', 'Los Angeles'
'Harry Potter and the Goblet of Fire', 'Los Angeles'
'Electric Light', 'Los Angeles'
'The Catcher in the Rye', 'Los Angeles'
'Treasure Chests', 'Los Angeles'
'East of Eden', 'Los Angeles'
'The Grapes of Wrath', 'Los Angeles'
'The Edge', 'Los Angeles'
'Slay Ride', 'Los Angeles'
'Jazz', 'Los Angeles'
'Franny and Zooey', 'Los Angeles'
'Godel, Escher, Bach', 'Los Angeles'
'Magic Terror', 'Los Angeles'
'Band of Brothers', 'Los Angeles'
'A Deepness in the Sky', 'Los Angeles'
'Van Gogh and Gauguin', 'Los Angeles'
'The Stranger', 'Newtown CT'
'Magic Terror', 'Newtown CT'
'Jazz', 'Newtown CT'
'Dreamcatcher: A Novel', 'Newtown CT'
'Song of Solomon', 'Newtown CT'
'Harry Potter and the Goblet of Fire', 'Newtown CT'
'Black House', 'Newtown CT'
'The Fall', 'Newtown CT'
'Catch-22', 'Newtown CT'
'Godel, Escher, Bach', 'Newtown CT'

'Group: Six People in Search of a Life', 'Newtown CT'
'The Soul of a New Machine', 'Newtown CT'
'Electric Light', 'Newtown CT'
'Treasure Chests', 'Newtown CT'
'Van Gogh and Gauguin', 'Newtown CT'
'To Kill a Mockingbird', 'Newtown CT'
'Venice', 'Newtown CT'
'When Rabbit Howls', 'Newtown CT'
'Slay Ride', 'Newtown CT'
'Nine Stories', 'Newtown CT'
'Franny and Zooey', 'Newtown CT'
'The Edge', 'Newtown CT'
'A Deepness in the Sky', 'Newtown CT'
'The Catcher in the Rye', 'Newtown CT'
'Of Mice and Men', 'Newtown CT'
'Harry Potter and the Prisoner of Azkaban', 'Newtown CT'
'Travels with Charley', 'Newtown CT'
'East of Eden', 'Newtown CT'
'Band of Brothers', 'Newtown CT'
'The Grapes of Wrath', 'Newtown CT'
'When Rabbit Howls', 'Sauk city WI'
'Slay Ride', 'Sauk city WI'
'To Kill a Mockingbird', 'Sauk city WI'
'Of Mice and Men', 'Sauk city WI'
'Van Gogh and Gauguin', 'Sauk city WI'
'Electric Light', 'Sauk city WI'
'A Deepness in the Sky', 'Sauk city WI'
'Jazz', 'Sauk city WI'
'Harry Potter and the Prisoner of Azkaban', 'Sauk city WI'
'The Catcher in the Rye', 'Sauk city WI'
'Catch-22', 'Sauk city WI'
'Magic Terror', 'Sauk city WI'
'The Grapes of Wrath', 'Sauk city WI'
'Franny and Zooey', 'Sauk city WI'
'The Soul of a New Machine', 'Sauk city WI'
'The Stranger', 'Sauk city WI'
'The Edge', 'Sauk city WI'
'Group: Six People in Search of a Life', 'Sauk city WI'
'East of Eden', 'Sauk city WI'
'Black House', 'Sauk city WI'
'Harry Potter and the Goblet of Fire', 'Sauk city WI'
'Venice', 'Sauk city WI'
'Nine Stories', 'Sauk city WI'
'Godel, Escher, Bach', 'Sauk city WI'
'The Fall', 'Sauk city WI'
'Band of Brothers', 'Sauk city WI'
'Treasure Chests', 'Sauk city WI'
'Travels with Charley', 'Sauk city WI'
'Song of Solomon', 'Sauk city WI'
'Dreamcatcher: A Novel', 'Sauk city WI'
'To Kill a Mockingbird', 'Westport CT'
'Electric Light', 'Westport CT'

'Treasure Chests', 'Westport CT'
'Dreamcatcher: A Novel', 'Westport CT'
'Magic Terror', 'Westport CT'
'The Soul of a New Machine', 'Westport CT'
'A Deepness in the Sky', 'Westport CT'
'Group: Six People in Search of a Life', 'Westport CT'
'Catch-22', 'Westport CT'
'Godel, Escher, Bach', 'Westport CT'
'The Stranger', 'Westport CT'
'Travels with Charley', 'Westport CT'
'The Grapes of Wrath', 'Westport CT'
'Jazz', 'Westport CT'
'Of Mice and Men', 'Westport CT'
'Song of Solomon', 'Westport CT'
'Nine Stories', 'Westport CT'
'Van Gogh and Gauguin', 'Westport CT'
'Slay Ride', 'Westport CT'
'The Edge', 'Westport CT'
'The Fall', 'Westport CT'
'Franny and Zooey', 'Westport CT'
'Venice', 'Westport CT'
'East of Eden', 'Westport CT'
'Harry Potter and the Goblet of Fire', 'Westport CT'
'Black House', 'Westport CT'
'Harry Potter and the Prisoner of Azkaban', 'Westport CT'
'When Rabbit Howls', 'Westport CT'
'Band of Brothers', 'Westport CT'
'The Catcher in the Rye', 'Westport CT'

21. Retrieve all of the columns from the book and publisher relations in one result. Use aliases in your query and use the simple JOIN syntax. Order does not matter. **(5 points)**

Answer:
SQL Statement:
use henry_book_records;
SELECT *
FROM book
JOIN publishers
WHERE book.publisherCode = publishers.publisherCode;

Output:
bookCode, title, publisherCode, TYPE, price, paperback, publisherCode, publisherName, city
'8092', 'Godel, Escher, Bach', 'BA', 'PHI', '14', 'Y', 'BA', 'Basic books', 'Boulder CO'
'3350', 'Group: Six People in Search of a Life', 'BP', 'PSY', '10.4', 'Y', 'BP', 'Berkley Publishing', 'Boston'
'3906', 'The Soul of a New Machine', 'BY', 'SCI', '11.16', 'Y', 'BY', 'Back Bay books', 'New York'
'189', 'Magic Terror', 'FA', 'HOR', '7.99', 'Y', 'FA', 'Fawcett books', 'New York'
'2908', 'Electric Light', 'FS', 'POE', '14', 'N', 'FS', 'Farrar Straus and Giroux', 'New York'
'9931', 'To Kill a Mockingbird', 'HC', 'FIC', '18', 'N', 'HC', 'HarperCollins publishers', 'New York'
'8720', 'When Rabbit Howls', 'JP', 'PSY', '6.29', 'Y', 'JP', 'Jove Publications', 'New York'
'9882', 'Slay Ride', 'JP', 'MYS', '6.99', 'Y', 'JP', 'Jove Publications', 'New York'
'3743', 'Nine Stories', 'LB', 'FIC', '5.99', 'Y', 'LB', 'Lb books', 'New York'
'6908', 'Franny and Zooey', 'LB', 'FIC', '5.99', 'Y', 'LB', 'Lb books', 'New York'

'9883', 'The Catcher in the Rye', 'LB', 'FIC', '5.99', 'Y', 'LB', 'Lb books', 'New York'
'2766', 'Of Mice and Men', 'PE', 'FIC', '6.95', 'Y', 'PE', 'Penguin USA', 'New York'
'5163', 'Travels with Charley', 'PE', 'TRA', '7.95', 'Y', 'PE', 'Penguin USA', 'New York'
'7405', 'East of Eden', 'PE', 'FIC', '12.95', 'Y', 'PE', 'Penguin USA', 'New York'
'9701', 'The Grapes of Wrath', 'PE', 'FIC', '13', 'Y', 'PE', 'Penguin USA', 'New York'
'6128', 'Jazz', 'PL', 'FIC', '12.95', 'Y', 'PL', 'Plume', 'New York'
'9627', 'Song of Solomon', 'PL', 'FIC', '14', 'Y', 'PL', 'Plume', 'New York'
'9611', 'Black House', 'RH', 'HOR', '18.81', 'N', 'RH', 'Random House', 'New York'
'1351', 'Dreamcatcher: A Novel', 'SC', 'HOR', '19.6', 'N', 'SC', 'Scribner', 'New York'
'5790', 'Catch-22', 'SC', 'FIC', '12', 'Y', 'SC', 'Scribner', 'New York'
'378', 'Venice', 'SS', 'ART', '24.5', 'N', 'SS', 'Simon and Schuster', 'New York'
'2226', 'Harry Potter and the Prisoner of Azkaban', 'ST', 'SFI', '13.96', 'N', 'ST', 'SchoLASTic Trade', 'New York'
'7443', 'Harry Potter and the Goblet of Fire', 'ST', 'SFI', '18.16', 'N', 'ST', 'SchoLASTic Trade', 'New York'
'1382', 'Treasure Chests', 'TA', 'ART', '24.46', 'N', 'TA', 'Taunton Press', 'Newtown CT'
'180', 'A Deepness in the Sky', 'TB', 'SFI', '7.19', 'Y', 'TB', 'Tor books', 'New York'
'200', 'The Stranger', 'VB', 'FIC', '8', 'Y', 'VB', 'Vintage books', 'New York'
'7559', 'The Fall', 'VB', 'FIC', '8', 'Y', 'VB', 'Vintage books', 'New York'
'2281', 'Van Gogh and Gauguin', 'WP', 'ART', '21', 'N', 'WP', 'Westview Press', 'Boulder CO'
'808', 'The Edge', 'JP', '', '6.99', 'Y', 'JP', 'Jove Publications', 'New York'
'6328', 'Band of Brothers', 'TO', '', '9.6', 'Y', 'TO', 'Touchstone books', 'Westport CT'

22. Rewrite the previous query using the ON keyword. **(5 points)**

Answer:
SQL Statement:
use henry_book_records;
SELECT *
FROM book
JOIN publishers
ON book.publisherCode = publishers.publisherCode;

Output:
bookCode, title, publisherCode, TYPE, price, paperback, publisherCode, publisherName, city
'8092', 'Godel, Escher, Bach', 'BA', 'PHI', '14', 'Y', 'BA', 'Basic books', 'Boulder CO'
'3350', 'Group: Six People in Search of a Life', 'BP', 'PSY', '10.4', 'Y', 'BP', 'Berkley Publishing', 'Boston'
'3906', 'The Soul of a New Machine', 'BY', 'SCI', '11.16', 'Y', 'BY', 'Back Bay books', 'New York'
'189', 'Magic Terror', 'FA', 'HOR', '7.99', 'Y', 'FA', 'Fawcett books', 'New York'
'2908', 'Electric Light', 'FS', 'POE', '14', 'N', 'FS', 'Farrar Straus and Giroux', 'New York'
'9931', 'To Kill a Mockingbird', 'HC', 'FIC', '18', 'N', 'HC', 'HarperCollins publishers', 'New York'
'8720', 'When Rabbit Howls', 'JP', 'PSY', '6.29', 'Y', 'JP', 'Jove Publications', 'New York'
'9882', 'Slay Ride', 'JP', 'MYS', '6.99', 'Y', 'JP', 'Jove Publications', 'New York'
'3743', 'Nine Stories', 'LB', 'FIC', '5.99', 'Y', 'LB', 'Lb books', 'New York'
'6908', 'Franny and Zooey', 'LB', 'FIC', '5.99', 'Y', 'LB', 'Lb books', 'New York'
'9883', 'The Catcher in the Rye', 'LB', 'FIC', '5.99', 'Y', 'LB', 'Lb books', 'New York'
'2766', 'Of Mice and Men', 'PE', 'FIC', '6.95', 'Y', 'PE', 'Penguin USA', 'New York'
'5163', 'Travels with Charley', 'PE', 'TRA', '7.95', 'Y', 'PE', 'Penguin USA', 'New York'
'7405', 'East of Eden', 'PE', 'FIC', '12.95', 'Y', 'PE', 'Penguin USA', 'New York'
'9701', 'The Grapes of Wrath', 'PE', 'FIC', '13', 'Y', 'PE', 'Penguin USA', 'New York'
'6128', 'Jazz', 'PL', 'FIC', '12.95', 'Y', 'PL', 'Plume', 'New York'
'9627', 'Song of Solomon', 'PL', 'FIC', '14', 'Y', 'PL', 'Plume', 'New York'
'9611', 'Black House', 'RH', 'HOR', '18.81', 'N', 'RH', 'Random House', 'New York'

'1351', 'Dreamcatcher: A Novel', 'SC', 'HOR', '19.6', 'N', 'SC', 'Scribner', 'New York'
'5790', 'Catch-22', 'SC', 'FIC', '12', 'Y', 'SC', 'Scribner', 'New York'
'378', 'Venice', 'SS', 'ART', '24.5', 'N', 'SS', 'Simon and Schuster', 'New York'
'2226', 'Harry Potter and the Prisoner of Azkaban', 'ST', 'SFI', '13.96', 'N', 'ST', 'SchoLASTic Trade', 'New York'
'7443', 'Harry Potter and the Goblet of Fire', 'ST', 'SFI', '18.16', 'N', 'ST', 'SchoLASTic Trade', 'New York'
'1382', 'Treasure Chests', 'TA', 'ART', '24.46', 'N', 'TA', 'Taunton Press', 'Newtown CT'
'180', 'A Deepness in the Sky', 'TB', 'SFI', '7.19', 'Y', 'TB', 'Tor books', 'New York'
'200', 'The Stranger', 'VB', 'FIC', '8', 'Y', 'VB', 'Vintage books', 'New York'
'7559', 'The Fall', 'VB', 'FIC', '8', 'Y', 'VB', 'Vintage books', 'New York'
'2281', 'Van Gogh and Gauguin', 'WP', 'ART', '21', 'N', 'WP', 'Westview Press', 'Boulder CO'
'808', 'The Edge', 'JP', '', '6.99', 'Y', 'JP', 'Jove Publications', 'New York'
'6328', 'Band of Brothers', 'TO', '', '9.6', 'Y', 'TO', 'Touchstone books', 'Westport CT'

23. Retrieve the title from the book relation and the city from the publisher relation using a JOIN query. Use aliases in your query. Order the result by title. **(5 points)**

Answer:
SQL Statement:
use henry_book_records;
SELECT title, city
FROM book
JOIN publishers
ON book.publisherCode = publishers.publisherCode
ORDER BY title;

Output:
title, city
'A Deepness in the Sky', 'New York'
'Band of Brothers', 'Westport CT'
'Black House', 'New York'
'Catch-22', 'New York'
'Dreamcatcher: A Novel', 'New York'
'East of Eden', 'New York'
'Electric Light', 'New York'
'Franny and Zooey', 'New York'
'Godel, Escher, Bach', 'Boulder CO'
'Group: Six People in Search of a Life', 'Boston'
'Harry Potter and the Goblet of Fire', 'New York'
'Harry Potter and the Prisoner of Azkaban', 'New York'
'Jazz', 'New York'
'Magic Terror', 'New York'
'Nine Stories', 'New York'
'Of Mice and Men', 'New York'
'Slay Ride', 'New York'
'Song of Solomon', 'New York'
'The Catcher in the Rye', 'New York'
'The Edge', 'New York'
'The Fall', 'New York'
'The Grapes of Wrath', 'New York'
'The Soul of a New Machine', 'New York'
'The Stranger', 'New York'

'To Kill a Mockingbird', 'New York'
'Travels with Charley', 'New York'
'Treasure Chests', 'Newtown CT'
'Van Gogh and Gauguin', 'Boulder CO'
'Venice', 'New York'
'When Rabbit Howls', 'New York'

24. Retrieve the title from the book relation and the author lastName from the author relation. Order by author lastName. Use aliases in your query. **This will involve JOINING the book, author and wrote relations. (5 points)**

Answer:
SQL Statement:
use henry_book_records;
SELECT title, lastName
FROM book
JOIN wrote
        ON book.bookCode = wrote.bookCode
JOIN authors
        ON wrote.authorNum = authors.authorNum
ORDER BY lastName;

Output:
title, lastName
'Band of Brothers', 'Ambrose'
'The Fall', 'Camus'
'The Stranger', 'Camus'
'When Rabbit Howls', 'Chase'
'Van Gogh and Gauguin', 'Collins'
'Van Gogh and Gauguin', 'Collins, Jr.'
'The Edge', 'Francis'
'Slay Ride', 'Francis'
'Electric Light', 'Heaney'
'Catch-22', 'Heller'
'Godel, Escher, Bach', 'Hofstadter'
'The Soul of a New Machine', 'Kidder'
'Black House', 'King'
'Dreamcatcher: A Novel', 'King'
'To Kill a Mockingbird', 'Lee'
'Jazz', 'Morrison'
'Song of Solomon', 'Morrison'
'Treasure Chests', 'O\'Rourke'
'Harry Potter and the Prisoner of Azkaban', 'Rowling'
'Harry Potter and the Goblet of Fire', 'Rowling'
'Nine Stories', 'Salinger'
'Franny and Zooey', 'Salinger'
'The Catcher in the Rye', 'Salinger'
'Treasure Chests', 'Schleining'
'Group: Six People in Search of a Life', 'Solotaroff'
'The Grapes of Wrath', 'Steinbeck'
'East of Eden', 'Steinbeck'
'Travels with Charley', 'Steinbeck'

'Of Mice and Men', 'Steinbeck'
'Magic Terror', 'Straub'
'Black House', 'Straub'
'A Deepness in the Sky', 'Vintage'
'Venice', 'Wills'

25. Retrieve the title from the book relation and branchNum and onHand from the inventory relation. Use aliases in your query. Order the result by title. **(5 points)**

   Answer:
   SQL Statement:
   use henry_book_records;
   SELECT title, branchNum, OnHand
   FROM book
   JOIN inventory
          ON book.bookCode = inventory.bookCode
   ORDER BY title;

   Output:
   # title, branchNum, OnHand
   'A Deepness in the Sky', '1', '2'
   'Band of Brothers', '2', '2'
   'Black House', '1', '2'
   'Catch-22', '4', '2'
   'Dreamcatcher: A Novel', '2', '4'
   'Dreamcatcher: A Novel', '3', '2'
   'East of Eden', '3', '2'
   'Electric Light', '1', '3'
   'Electric Light', '4', '1'
   'Franny and Zooey', '2', '2'
   'Godel, Escher, Bach', '3', '1'
   'Group: Six People in Search of a Life', '1', '2'
   'Harry Potter and the Goblet of Fire', '4', '1'
   'Harry Potter and the Prisoner of Azkaban', '3', '2'
   'Harry Potter and the Prisoner of Azkaban', '4', '1'
   'Harry Potter and the Prisoner of Azkaban', '1', '3'
   'Jazz', '2', '4'
   'Jazz', '3', '3'
   'Magic Terror', '2', '2'
   'Nine Stories', '2', '1'
   'Of Mice and Men', '3', '2'
   'Slay Ride', '3', '3'
   'Song of Solomon', '3', '5'
   'Song of Solomon', '4', '2'
   'The Catcher in the Rye', '2', '3'
   'The Catcher in the Rye', '4', '2'
   'The Edge', '2', '1'
   'The Fall', '2', '2'
   'The Grapes of Wrath', '1', '2'
   'The Grapes of Wrath', '2', '1'
   'The Grapes of Wrath', '3', '3'
   'The Grapes of Wrath', '4', '2'

'The Soul of a New Machine', '3', '2'
'The Soul of a New Machine', '2', '1'
'The Stranger', '1', '1'
'The Stranger', '2', '3'
'To Kill a Mockingbird', '1', '2'
'Travels with Charley', '1', '1'
'Treasure Chests', '2', '1'
'Van Gogh and Gauguin', '4', '3'
'Venice', '3', '2'
'When Rabbit Howls', '1', '3'

26. Retrieve the title from the book relation, the branchName from the branch relation and number of copies onHand from the inventory relation. Use aliases in your query. Order the result by title ascending. **(5 points)**

Answer:
SQL Statement:
use henry_book_records;
SELECT title, branchName, onHand
FROM book
JOIN inventory
        ON book.bookCode = inventory.bookCode
JOIN branch
        ON inventory.branchNum = branch.branchNum
ORDER BY title ASC;

Output:
title, branchName, onHand
'A Deepness in the Sky', 'Henry Downtown', '2'
'Band of Brothers', 'Henry On The Hill', '2'
'Black House', 'Henry Downtown', '2'
'Catch-22', 'Henry Eastshore', '2'
'Dreamcatcher: A Novel', 'Henry Brentwood', '2'
'Dreamcatcher: A Novel', 'Henry On The Hill', '4'
'East of Eden', 'Henry Brentwood', '2'
'Electric Light', 'Henry Downtown', '3'
'Electric Light', 'Henry Eastshore', '1'
'Franny and Zooey', 'Henry On The Hill', '2'
'Godel, Escher, Bach', 'Henry Brentwood', '1'
'Group: Six People in Search of a Life', 'Henry Downtown', '2'
'Harry Potter and the Goblet of Fire', 'Henry Eastshore', '1'
'Harry Potter and the Prisoner of Azkaban', 'Henry Downtown', '3'
'Harry Potter and the Prisoner of Azkaban', 'Henry Eastshore', '1'
'Harry Potter and the Prisoner of Azkaban', 'Henry Brentwood', '2'
'Jazz', 'Henry Brentwood', '3'
'Jazz', 'Henry On The Hill', '4'
'Magic Terror', 'Henry On The Hill', '2'
'Nine Stories', 'Henry On The Hill', '1'
'Of Mice and Men', 'Henry Brentwood', '2'
'Slay Ride', 'Henry Brentwood', '3'
'Song of Solomon', 'Henry Brentwood', '5'
'Song of Solomon', 'Henry Eastshore', '2'

'The Catcher in the Rye', 'Henry On The Hill', '3'
'The Catcher in the Rye', 'Henry Eastshore', '2'
'The Edge', 'Henry On The Hill', '1'
'The Fall', 'Henry On The Hill', '2'
'The Grapes of Wrath', 'Henry Eastshore', '2'
'The Grapes of Wrath', 'Henry Brentwood', '3'
'The Grapes of Wrath', 'Henry On The Hill', '1'
'The Grapes of Wrath', 'Henry Downtown', '2'
'The Soul of a New Machine', 'Henry On The Hill', '1'
'The Soul of a New Machine', 'Henry Brentwood', '2'
'The Stranger', 'Henry On The Hill', '3'
'The Stranger', 'Henry Downtown', '1'
'To Kill a Mockingbird', 'Henry Downtown', '2'
'Travels with Charley', 'Henry Downtown', '1'
'Treasure Chests', 'Henry On The Hill', '1'
'Van Gogh and Gauguin', 'Henry Eastshore', '3'
'Venice', 'Henry Brentwood', '2'
'When Rabbit Howls', 'Henry Downtown', '3'

27. Retrieve the title from the book relation and compute the number of copies of the title that all branches have on hand. Name this computed column 'Inventory' **Hint: You will need to join the book and inventory and do an aggregate query.** Use aliases in your query. Order the result by the total number of copies of the book in descending order. Show the first two rows of your result. **(5 points)**

Answer:
SQL Statement:
use henry_book_records;
SELECT title, count(onHand) as 'Inventory'
FROM book
JOIN inventory
**   ON book.bookCode = inventory.bookCode**
GROUP BY title
ORDER BY 'Inventory' DESC
LIMIT 2;

Output:
title, Inventory
'A Deepness in the Sky', '1'
'Magic Terror', '1'

28. Retrieve the first name and last name from the author relation and the title from the book relation for all paperback books in the book relation. Order the result by the author's last name and title. **(5 points)**

Answer:
SQL Statement:
use henry_book_records;
SELECT firstName, lastName, title
FROM book
JOIN wrote
**   ON book.bookCode = wrote.bookCode**
JOIN authors
**   ON wrote.authorNum = authors.authorNum**

WHERE paperback = 'Y'
ORDER BY lastName,title;

Output:
firstName, lastName, title
'Stephen E.', 'Ambrose', 'Band of Brothers'
'Albert', 'Camus', 'The Fall'
'Albert', 'Camus', 'The Stranger'
'Truddi', 'Chase', 'When Rabbit Howls'
'Dick', 'Francis', 'Slay Ride'
'Dick', 'Francis', 'The Edge'
'Joseph', 'Heller', 'Catch-22'
'Douglas R.', 'Hofstadter', 'Godel, Escher, Bach'
'Tracy', 'Kidder', 'The Soul of a New Machine'
'Toni', 'Morrison', 'Jazz'
'Toni', 'Morrison', 'Song of Solomon'
'J.D.', 'Salinger', 'Franny and Zooey'
'J.D.', 'Salinger', 'Nine Stories'
'J.D.', 'Salinger', 'The Catcher in the Rye'
'Paul', 'Solotaroff', 'Group: Six People in Search of a Life'
'John', 'Steinbeck', 'East of Eden'
'John', 'Steinbeck', 'Of Mice and Men'
'John', 'Steinbeck', 'The Grapes of Wrath'
'John', 'Steinbeck', 'Travels with Charley'
'Peter', 'Straub', 'Magic Terror'
'Vernor', 'Vintage', 'A Deepness in the Sky'

29. Insert a new branch into the branch relation with the following data branch number = 5, branch name = Henry Lexington Green, branch location = 127 South Road, numEmployees = 7. Then write the query to show all of the branches in the branch relation. **(4 points)**

Answer:
SQL Statement:
use henry_book_records;
INSERT INTO branch(branchNum, branchName, branchLocation, numEmployees)
VALUES('5', 'Henry Lexington Green', '127 South Road', '7');
SELECT *
FROM branch;

Output:
branchNum, branchName, branchLocation, numEmployees
'1', 'Henry Downtown', '16 Riverview', '10'
'2', 'Henry On The Hill', '1289 Bedford', '6'
'3', 'Henry Brentwood', 'Brentwood Mall', '15'
'4', 'Henry Eastshore', 'Eastshore Mall', '9'
'5', 'Henry Lexington Green', '127 South Road', '7'

30. The Henry Downtown branch moved to 184 St. John's Way. Update the branch table with the new address. **(3 points)**

Answer:

SQL Statement:
use henry_book_records;
UPDATE branch
SET branchLocation = '184 St. John's Way'
WHERE branchNum = 1;
SELECT *
FROM branch;

Output:
branchNum, branchName, branchLocation, numEmployees
'1', 'Henry Downtown', '184 St. John's Way', '10'
'2', 'Henry On The Hill', '1289 Bedford', '6'
'3', 'Henry Brentwood', 'Brentwood Mall', '15'
'4', 'Henry Eastshore', 'Eastshore Mall', '9'
'5', 'Henry Lexington Green', '127 South Road', '7'