**Queries**

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

**SQL Statement:**

**SELECT lastname, firstname**

**FROM author;**

**Output:**

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

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

**SQL Statement:**

**SELECT title, type**

**FROM book;**

**Output:**

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

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

**SQL Statement:**

**SELECT DISTINCT(publisherCode)**

**FROM book;**

**Output:**

|  |
| --- |
| **publisherCode** |
| **BA** |
| **BP** |
| **BY** |
| **CT** |
| **FA** |
| **FS** |
| **HC** |
| **JP** |
| **LB** |
| **PE** |
| **PL** |
| **PU** |
| **RH** |
| **SC** |
| **SS** |
| **ST** |
| **TA** |
| **TB** |
| **TO** |
| **VB** |
| **WP** |

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

**SQL Statement:**

**SELECT title, ((price-(price\*.25))) AS discount**

**FROM book;**

**Output:**

|  |  |
| --- | --- |
| **Title** | **discount** |
| A Deepness in the Sky | 5.3925 |
| Magic Terror | 5.9925 |
| The Stranger | 6.0000 |
| Venice | 18.3750 |
| Second Wind | 18.7125 |

1. 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)**

**SQL Statement:**

**SELECT title, price**

**FROM book**

**WHERE price> 20.00;**

**Output:**

|  |  |
| --- | --- |
| **Title** | **price** |
| Venice | 24.50 |
| Second Wind | 24.95 |
| Treasure Chests | 24.46 |
| Van Gogh and Gauguin | 21.00 |
| A Guide to SQL | 37.95 |

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

**SQL Statement:**

**SELECT publisherName**

**FROM publisher**

**WHERE city='New York';**

**Output:**

|  |
| --- |
| **publisherName** |
| Arcade Publishing |
| Back Bay books |
| Fawcett books |
| Farrar Straus and Giroux |
| HarperCollins publishers |
| Jove Publications |
| Lb books |
| Penguin USA |
| Plume |
| Putnam Publishing Group |
| Random House |
| Schoken books |
| Scribner |
| Simon and Schuster |
| SchoLASTic Trade |
| Tor books |
| Thames and Hudson |
| Vintage books |
| W.W. Norton |

1. 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)**

**SQL Statement:**

**SELECT publisherName**

**FROM publisher**

**WHERE city!='New York';**

**Output:**

|  |
| --- |
| **publisherName** |
| Arkham House |
| Basic books |
| Berkley Publishing |
| Course Technology |
| Jeremy P. Tarcher |
| McPherson and Co. |
| Taunton Press |
| Touchstone books |
| Westview Press |

1. 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)**

**SQL Statement:**

**SELECT bookCode, onHand**

**FROM inventory**

**WHERE onHand BETWEEN 2 AND 4;**

**Output:**

|  |  |
| --- | --- |
| **bookCode** | **onHand** |
| 0180 | 2 |
| 0189 | 2 |
| 0200 | 3 |
| 0378 | 2 |
| 079X | 2 |
| 079X | 3 |
| 1351 | 4 |
| 1351 | 2 |
| 138X | 3 |
| 2226 | 3 |
| 2226 | 2 |
| 2281 | 3 |
| 2766 | 2 |
| 2908 | 3 |
| 3350 | 2 |
| 3906 | 2 |
| 5790 | 2 |
| 6128 | 4 |
| 6128 | 3 |
| 6328 | 2 |
| 6908 | 2 |
| 7405 | 2 |
| 7559 | 2 |
| 8720 | 3 |
| 9611 | 2 |
| 9627 | 2 |
| 9701 | 2 |
| 9701 | 3 |
| 9701 | 2 |
| 9882 | 3 |
| 9883 | 3 |
| 9883 | 2 |
| 9931 | 2 |

1. 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)**

**SQL Statement:**

**SELECT title, type**

**FROM book**

**WHERE type IN ('SFI', 'HOR', 'ART', 'PSY')**

**ORDER BY type ASC;**

**Output:**

|  |  |
| --- | --- |
| **title** | **type** |
| Venice | ART |
| Treasure Chests | ART |
| Van Gogh and Gauguin | ART |
| Magic Terror | HOR |
| Dreamcatcher: A Novel | HOR |
| Black House | HOR |
| Group: Six People in Search of a Life | PSY |
| When Rabbit Howls | PSY |
| A Deepness in the Sky | SFI |
| Harry Potter and the Prisoner of Azkaban | SFI |
| Harry Potter and the Goblet of Fire | SFI |

1. 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)**

**SQL Statement:**

**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 |

1. 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)**

**SQL Statement:**

**SELECT title**

**FROM book**

**WHERE type=null**

**ORDER BY title ASC;**

**Output:**

|  |
| --- |
| **title** |

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

**SQL Statement:**

**SELECT \***

**FROM author**

**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. |

1. 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)**

**SQL Statement:**

**SELECT title, type**

**FROM book**

**ORDER BY type ASC, title ASC;**

**Output:**

|  |  |
| --- | --- |
| **title** | **TYPE** |
| Treasure Chests | ART |
| Van Gogh and Gauguin | ART |
| Venice | ART |
| A Guide to SQL | CMP |
| Beloved | FIC |

1. 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)**

**SQL Statement:**

**SELECT COUNT(publisherCode) AS 'Penguin Books'**

**FROM book**

**WHERE publisherCode = 'PE';**

**Output:**

|  |
| --- |
| **Penguin Books** |
| **4** |

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

**SQL Statement:**

**SELECT publisherCode, COUNT(publishercode)**

**FROM book**

**GROUP BY publisherCode**

**ORDER BY COUNT(publisherCode) DESC;**

**Output:**

|  |  |
| --- | --- |
| **publisherCode** | **COUNT(publishercode)** |
| PE | 4 |
| JP | 3 |
| LB | 3 |
| PL | 3 |
| SC | 2 |

1. 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)**

**SQL Statement:**

**SELECT publisherCode, COUNT(publishercode)**

**FROM book**

**GROUP BY publisherCode**

**HAVING COUNT(publisherCode)>=3**

**ORDER BY publisherCode;**

**Output:**

|  |  |
| --- | --- |
| **publisherCode** | **COUNT(publishercode)** |
| JP | 3 |
| LB | 3 |
| PE | 4 |
| PL | 3 |

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

**SQL Statement:**

**SELECT COUNT(price)**

**FROM book**

**WHERE price<=20.00;**

**Output:**

|  |
| --- |
| **COUNT(price)** |
| **28** |

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

**SQL Statement:**

**SELECT title**

**FROM book**

**WHERE price = (SELECT MAX(price)**

**FROM book);**

**Output:**

|  |
| --- |
| **title** |
| A Guide to SQL |

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

**SQL Statement:**

**SELECT title**

**FROM book**

**WHERE price = (SELECT MIN(price)**

**FROM book);**

**Output:**

|  |
| --- |
| **title** |
| Nine Stories |
| Franny and Zooey |
| The Catcher in the Rye |

1. 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)**

**SQL Statement:**

**SELECT title**

**FROM book**

**WHERE publisherCode IN (SELECT publisherCode**

**FROM publisher**

**WHERE city!='New York'**

**ORDER BY city ASC);**

**Output:**

|  |
| --- |
| **title** |
| Treasure Chests |
| Van Gogh and Gauguin |
| Group: Six People in Search of a Life |
| Band of Brothers |
| A Guide to SQL |
| Godel, Escher, Bach |

1. 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)**

**SQL Statement:**

**SELECT bookCode, title, TYPE, price, paperback, p.publisherCode, publisherName, city**

**FROM book b, publisher p**

**WHERE b.publisherCode=p.publisherCode;**

**Output:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| bookCode | title | TYPE | price | paperback | PublisherCode | publisherName | city |
| 0180 | A Deepness in the Sky | SFI | 7.19 | Y | TB | Tor books | New York |
| 0189 | Magic Terror | HOR | 7.99 | Y | FA | Fawcett books | New York |
| 0200 | The Stranger | FIC | 8.00 | Y | VB | Vintage books | New York |
| 0378 | Venice | ART | 24.50 | N | SS | Simon and Schuster | New York |
| 079X | Second Wind | MYS | 24.95 | N | PU | Putnam Publishing Group | New York |
| 0808 | The Edge | MYS | 6.99 | Y | JP | Jove Publications | New York |
| 1351 | Dreamcatcher: A Novel | HOR | 19.60 | N | SC | Scribner | New York |
| 1382 | Treasure Chests | ART | 24.46 | N | TA | Taunton Press | Newtown CT |
| 138X | Beloved | FIC | 12.95 | Y | PL | Plume | New York |
| 2226 | Harry Potter and the Prisoner of Azkaban | SFI | 13.96 | N | ST | SchoLASTic Trade | New York |
| 2281 | Van Gogh and Gauguin | ART | 21.00 | N | WP | Westview Press | Boulder CO |
| 2766 | Of Mice and Men | FIC | 6.95 | Y | PE | Penguin USA | New York |
| 2908 | Electric Light | POE | 14.00 | N | FS | Farrar Straus and Giroux | New York |
| 3350 | Group: Six People in Search of a Life | PSY | 10.40 | Y | BP | Berkley Publishing | Boston |
| 3743 | Nine Stories | FIC | 5.99 | Y | LB | Lb books | New York |
| 3906 | The Soul of a New Machine | SCI | 11.16 | Y | BY | Back Bay books | New York |
| 5163 | Travels with Charley | TRA | 7.95 | Y | PE | Penguin USA | New York |
| 5790 | Catch-22 | FIC | 12.00 | Y | SC | Scribner | New York |
| 6128 | Jazz | FIC | 12.95 | Y | PL | Plume | New York |
| 6328 | Band of Brothers | HIS | 9.60 | Y | TO | Touchstone books | Westport CT |
| 669X | A Guide to SQL | CMP | 37.95 | Y | CT | Course Technology | Boston |
| 6908 | Franny and Zooey | FIC | 5.99 | Y | LB | Lb books | New York |
| 7405 | East of Eden | FIC | 12.95 | Y | PE | Penguin USA | New York |
| 7443 | Harry Potter and the Goblet of Fire | SFI | 18.16 | N | ST | SchoLASTic Trade | New York |
| 7559 | The Fall | FIC | 8.00 | Y | VB | Vintage books | New York |
| 8092 | Godel, Escher, Bach | PHI | 14.00 | Y | BA | Basic books | Boulder CO |
| 8720 | When Rabbit Howls | PSY | 6.29 | Y | JP | Jove Publications | New York |
| 9611 | Black House | HOR | 18.81 | N | RH | Random House | New York |
| 9627 | Song of Solomon | FIC | 14.00 | Y | PL | Plume | New York |
| 9701 | The Grapes of Wrath | FIC | 13.00 | Y | PE | Penguin USA | New York |
| 9882 | Slay Ride | MYS | 6.99 | Y | JP | Jove Publications | New York |
| 9883 | The Catcher in the Rye | FIC | 5.99 | Y | LB | Lb books | New York |
| 9931 | To Kill a Mockingbird | FIC | 18.00 | N | HC | HarperCollins publishers | New York |

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

**SQL Statement:**

**SELECT bookCode, title, TYPE, price, paperback, p.publisherCode, publisherName, city**

**FROM book b**

**JOIN publisher p ON b.publisherCode=p.publisherCode;**

**Output:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| bookCode | title | TYPE | price | paperback | publisherCode | publisherName | city |
| 0180 | A Deepness in the Sky | SFI | 7.19 | Y | TB | Tor books | New York |
| 0189 | Magic Terror | HOR | 7.99 | Y | FA | Fawcett books | New York |
| 0200 | The Stranger | FIC | 8.00 | Y | VB | Vintage books | New York |
| 0378 | Venice | ART | 24.50 | N | SS | Simon and Schuster | New York |
| 079X | Second Wind | MYS | 24.95 | N | PU | Putnam Publishing Group | New York |
| 0808 | The Edge | MYS | 6.99 | Y | JP | Jove Publications | New York |
| 1351 | Dreamcatcher: A Novel | HOR | 19.60 | N | SC | Scribner | New York |
| 1382 | Treasure Chests | ART | 24.46 | N | TA | Taunton Press | Newtown CT |
| 138X | Beloved | FIC | 12.95 | Y | PL | Plume | New York |
| 2226 | Harry Potter and the Prisoner of Azkaban | SFI | 13.96 | N | ST | SchoLASTic Trade | New York |
| 2281 | Van Gogh and Gauguin | ART | 21.00 | N | WP | Westview Press | Boulder CO |
| 2766 | Of Mice and Men | FIC | 6.95 | Y | PE | Penguin USA | New York |
| 2908 | Electric Light | POE | 14.00 | N | FS | Farrar Straus and Giroux | New York |
| 3350 | Group: Six People in Search of a Life | PSY | 10.40 | Y | BP | Berkley Publishing | Boston |
| 3743 | Nine Stories | FIC | 5.99 | Y | LB | Lb books | New York |
| 3906 | The Soul of a New Machine | SCI | 11.16 | Y | BY | Back Bay books | New York |
| 5163 | Travels with Charley | TRA | 7.95 | Y | PE | Penguin USA | New York |
| 5790 | Catch-22 | FIC | 12.00 | Y | SC | Scribner | New York |
| 6128 | Jazz | FIC | 12.95 | Y | PL | Plume | New York |
| 6328 | Band of Brothers | HIS | 9.60 | Y | TO | Touchstone books | Westport CT |
| 669X | A Guide to SQL | CMP | 37.95 | Y | CT | Course Technology | Boston |
| 6908 | Franny and Zooey | FIC | 5.99 | Y | LB | Lb books | New York |
| 7405 | East of Eden | FIC | 12.95 | Y | PE | Penguin USA | New York |
| 7443 | Harry Potter and the Goblet of Fire | SFI | 18.16 | N | ST | SchoLASTic Trade | New York |
| 7559 | The Fall | FIC | 8.00 | Y | VB | Vintage books | New York |
| 8092 | Godel, Escher, Bach | PHI | 14.00 | Y | BA | Basic books | Boulder CO |
| 8720 | When Rabbit Howls | PSY | 6.29 | Y | JP | Jove Publications | New York |
| 9611 | Black House | HOR | 18.81 | N | RH | Random House | New York |
| 9627 | Song of Solomon | FIC | 14.00 | Y | PL | Plume | New York |
| 9701 | The Grapes of Wrath | FIC | 13.00 | Y | PE | Penguin USA | New York |
| 9882 | Slay Ride | MYS | 6.99 | Y | JP | Jove Publications | New York |
| 9883 | The Catcher in the Rye | FIC | 5.99 | Y | LB | Lb books | New York |
| 9931 | To Kill a Mockingbird | FIC | 18.00 | N | HC | HarperCollins publishers | New York |

1. 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)**

**SQL Statement:**

**SELECT title, city**

**FROM book b**

**JOIN publisher p ON b.publishercode=p.publisherCode**

**ORDER BY title;**

**Output:**

|  |  |
| --- | --- |
| **title** | **city** |
| A Deepness in the Sky | New York |
| A Guide to SQL | Boston |
| Band of Brothers | Westport CT |
| Beloved | New York |
| 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 |
| Second Wind | 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 |

1. 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)**

**SQL Statement:**

**SELECT title, lastName**

**FROM book b**

**JOIN wrote w ON b.bookCode=w.bookCode**

**JOIN author a ON w.authorNum=a.authorNum**

**ORDER BY lastName;**

**Output:**

|  |  |
| --- | --- |
| **Title** | **lastName** |
| Band of Brothers | Ambrose |
| The Stranger | Camus |
| The Fall | Camus |
| When Rabbit Howls | Chase |
| Van Gogh and Gauguin | Collins |
| Van Gogh and Gauguin | Collins, Jr. |
| Second Wind | Francis |
| The Edge | Francis |
| Slay Ride | Francis |
| Electric Light | Heaney |
| Catch-22 | Heller |
| Godel, Escher, Bach | Hofstadter |
| The Soul of a New Machine | Kidder |
| Dreamcatcher: A Novel | King |
| Black House | King |
| To Kill a Mockingbird | Lee |
| Jazz | Morrison |
| Beloved | Morrison |
| Song of Solomon | Morrison |
| Treasure Chests | O'Rourke |
| A Guide to SQL | Pratt |
| 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 |
| East of Eden | Steinbeck |
| The Grapes of Wrath | Steinbeck |
| Travels with Charley | Steinbeck |
| Of Mice and Men | Steinbeck |
| Black House | Straub |
| Magic Terror | Straub |
| A Deepness in the Sky | Vintage |
| Venice | Wills |

1. 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)**

**SQL Statement:**

**SELECT title, branchNum, onHand**

**FROM book b**

**JOIN inventory i ON b.bookCode=i.bookCode**

**ORDER BY title;**

**Output:**

|  |  |  |
| --- | --- | --- |
| **title** | **branchNum** | **onHand** |
| A Deepness in the Sky | 1 | 2 |
| A Guide to SQL | 1 | 1 |
| Band of Brothers | 2 | 2 |
| Beloved | 2 | 3 |
| 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 | 1 | 3 |
| Harry Potter and the Prisoner of Azkaban | 3 | 2 |
| Harry Potter and the Prisoner of Azkaban | 4 | 1 |
| Jazz | 2 | 4 |
| Jazz | 3 | 3 |
| Magic Terror | 2 | 2 |
| Nine Stories | 2 | 1 |
| Of Mice and Men | 3 | 2 |
| Second Wind | 2 | 1 |
| Second Wind | 3 | 2 |
| Second Wind | 4 | 3 |
| 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 | 2 | 1 |
| The Soul of a New Machine | 3 | 2 |
| 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 |

1. 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)**

**SQL Statement:**

**SELECT title, branchName, onHand**

**FROM book b**

**JOIN inventory i ON b.bookCode=i.bookCode**

**JOIN branch br ON i.branchNum=br.branchNum**

**ORDER BY title ASC;**

**Output:**

|  |  |  |
| --- | --- | --- |
| **title** | **branchName** | **onHand** |
| **A Deepness in the Sky** | **Henry Downtown** | **2** |
| **A Guide to SQL** | **Henry Downtown** | **1** |
| **Band of Brothers** | **Henry On The Hill** | **2** |
| **Beloved** | **Henry On The Hill** | **3** |
| **Black House** | **Henry Downtown** | **2** |
| **Catch-22** | **Henry Eastshore** | **2** |
| **Dreamcatcher: A Novel** | **Henry On The Hill** | **4** |
| **Dreamcatcher: A Novel** | **Henry Brentwood** | **2** |
| **East of Eden** | **Henry Brentwood** | **2** |
| **Electric Light** | **Henry Eastshore** | **1** |
| **Electric Light** | **Henry Downtown** | **3** |
| **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 Brentwood** | **2** |
| **Harry Potter and the Prisoner of Azkaban** | **Henry Eastshore** | **1** |
| **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** |
| **Second Wind** | **Henry On The Hill** | **1** |
| **Second Wind** | **Henry Brentwood** | **2** |
| **Second Wind** | **Henry Eastshore** | **3** |
| **Slay Ride** | **Henry Brentwood** | **3** |
| **Song of Solomon** | **Henry Brentwood** | **5** |
| **Song of Solomon** | **Henry Eastshore** | **2** |
| **The Catcher in the Rye** | **Henry Eastshore** | **2** |
| **The Catcher in the Rye** | **Henry On The Hill** | **3** |
| **The Edge** | **Henry On The Hill** | **1** |
| **The Fall** | **Henry On The Hill** | **2** |
| **The Grapes of Wrath** | **Henry Downtown** | **2** |
| **The Grapes of Wrath** | **Henry On The Hill** | **1** |
| **The Grapes of Wrath** | **Henry Eastshore** | **2** |
| **The Grapes of Wrath** | **Henry Brentwood** | **3** |
| **The Soul of a New Machine** | **Henry Brentwood** | **2** |
| **The Soul of a New Machine** | **Henry On The Hill** | **1** |
| **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** |

1. 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 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)**

**SQL Statement:**

**SELECT title, SUM(branchName+onHand) AS Inventory**

**FROM book b**

**JOIN inventory i ON b.bookCode=i.bookCode**

**JOIN branch br ON i.branchNum=br.branchNum**

**GROUP BY title**

**ORDER BY Inventory DESC;**

**Output:**

|  |  |
| --- | --- |
| **title** | **inventory** |
| The Grapes of Wrath | 8 |
| Song of Solomon | 7 |

1. 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 last name and title. **(5 points)**

**SQL Statement:**

**SELECT firstName, lastName, title**

**FROM author a**

**JOIN wrote w ON a.authorNUM=w.authorNum**

**JOIN book b ON w.bookCode=b.bookCode**

**WHERE b.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 | Beloved |
| Toni | Morrison | Jazz |
| Toni | Morrison | Song of Solomon |
| Philip | Pratt | A Guide to SQL |
| 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 |

1. 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)**

**SQL Statement:**

**INSERT INTO branch**

**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 |

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

**SQL Statement:**

**UPDATE branch**

**SET branchLocation="184 St. John's Way"**

**WHERE branchName='Henry Downtown';**

**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 |