Exercises: Spring Data Advanced Quering

This document defines the exercise assignments for the "Databases Frameworks" course @ SoftUni.

For the following tasks use the **bookshop_system** database from the previous exercise. Make sure it has proper connections between the tables and it is populated with any sample data.

1. Books Titles by Age Restriction

Write a program that prints **the titles of all books**, for which the **age restriction** matches the given input (minor, teen or adult). **Ignore casing** of the input.

Example

Input	Output
miNor	A che punto Ã¨ la note After Many a Summer Dies the Swan Ah …
teEN	All Passion Spent Wide Sea Antic Hay …

2. Golden Books

Write a program that prints **the titles of the golden edition books**, which have **less than 5000 copies**.

Example

Output
Behold the Man Bury My Heart at Wounded Knee The Cricket on the Hearth …

3. Books by Price

Write a program that prints **the titles and prices of books** with **price lower than 5** and **higher than 40**.

Example

Output
A che punto Ã¨ la note - $45.78 All the King's Men - $45.60 An Evil Cradling - $3.30 Beyond the Mexique Bay - $45.45 …

4. Not Released Books

Write a program that prints **the titles** of all books that are **NOT released** in a given year.

Example

Input	Output
2000	Absalom A che punto Ã¨ la note After Many a Summer Dies the Swan …
1998	A che punto Ã¨ la note Ah Wilderness! …

5. Books Released Before Date

Write a program that prints **the title, the edition type and the price** of books, which are **released before a given date**. The date will be in the **format dd-MM-yyyy**.

Example

Input	Output
12-04-1992	All Passion Spent Bury My Heart at Wounded Knee A Catskill Eagle …
30-12-1989	Bury My Heart at Wounded Knee Consider the Lilies The Curious Incident of the Dog in the Night-Time …

6. Authors Search

Write a program that prints **the names** of those authors, whose **first name ends with a given string**.

Example

Input	Output
e	George Powell Jane Ortiz Julie Washington …
dy	Randy Morales Randy Graham

7. Books Search

Write a program that prints **the titles of books**, which **contain a given string** (regardless of the casing).

Example

Input	Output
sK	A Catskill Eagle The Daffodil Sky The Skull Beneath the Skin
WOR	Great Work of Time Terrible Swift Sword

8. Book Titles Search

Write a program that prints **the titles of books**, which are **written by authors**, whose **last name starts with a given string**.

Example

Input	Output
R	A Time of Gifts (Amanda Rice) To Sail Beyond the Sunset (Amanda Rice) To Say Nothing of the Dog (Amanda Rice)
gr	What's Become of Waring (Randy Graham) Vanity Fair (Randy Graham) Dominations (Chris Graham) Eyeless in Gaza (Brenda Griffin)

9. Count Books

Write a program that prints **the number of books**, whose **title is longer than a given number**.

Example

Input	Output	Comments
12	178	There are 178 books with longer title than 12 symbols
40	2	There are 2 books with longer title than 40 symbols

10. Total Book Copies

Write a program that prints **the total number of book copies by author**. Order the results **descending by total book copies**.

Example

Output
Amanda Rice - 87819 Amy Porter - 29366 Christina Jordan - 18708 Earl Bennett - 12978 …

11. Reduced Book

Write a program that prints **information** (**title**, **edition type**, **age restriction** and **price**) for a book **by given title**. When retrieving the book information **select only those fields** and **do NOT include any other information** in the returned result.

Example

Input	Output
Thrones	Thrones PROMO MINOR 21.41
Things Fall Apart	Things Fall Apart GOLD ADULT 40.02

Hints

You must **create a projection** of the book class omitting the not required fields.

1. Create an **interface ReducedBook** with properties for **title**, **edition type**, **age restriction** and **price**.
2. In the books repository create **query method** that would return **ReducedBook** by given title.

3. Use that method in the **BookService class.**
4. Use the **BookService** to retrieve instance of that object and print its information.

12. * Increase Book Copies

Write a program that **increases the copies of all books released after a given date with a given number**. Print the total amount of book copies that were added.

Input

- On the **first line** – date in the format **dd-MMM-yyyy.** If a book is released after that date (exclusively), increase its book copies with the provided number from the second line of the input.
- On the **second line** – number of **book copies** each book should be increased with.

Output

- **Total number of books** that was added to the database.

Example

Input	Output	Comments
12 Oct 2005 100	6100	61 books are released after 12 Oct 2005, so total of 6100 book copies were added
06 Jun 2013 44	572	13 books are released after 6 Jun 2013, so total of 572 book copies were added

13. * Remove Books

Write a program that **removes from the database** those **books**, which **copies are lower than a given number**. Print the **number of books that were deleted** from the database.

Example

Input	Output
300	4 books were deleted
4200	34 books were deleted

14. * Stored Procedure

Using HeidiSQL (or other similar tool) **create a stored procedure**, which receives an **author's first and last name** and returns the **total amount of books the author has written**. Then write a **program** that **receives an author's name** and prints the **total number of books** the author has written by **using the stored procedure** you've just created.

Example

Input	Output
Amanda Rice	Amanda Rice has written 4 books
Christina Jordan	Christina Jordan has written 1 book
Wanda Morales	Wanda Morales has not written any books yet