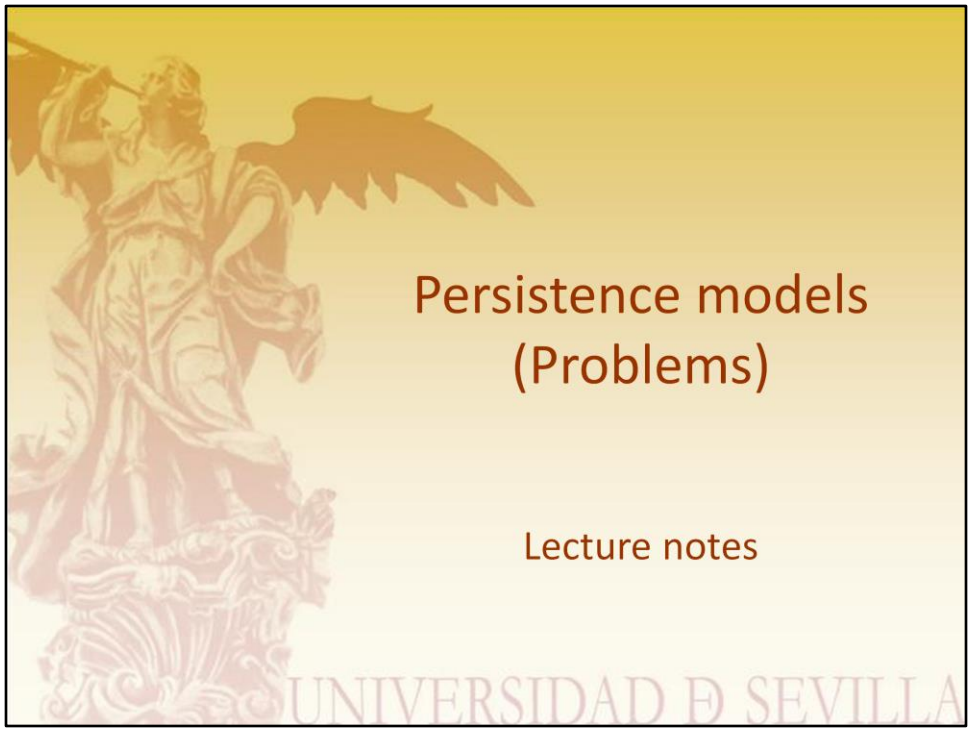

Welcome to this lesson in which our goal's to work with JPA and JPQL in the lab.

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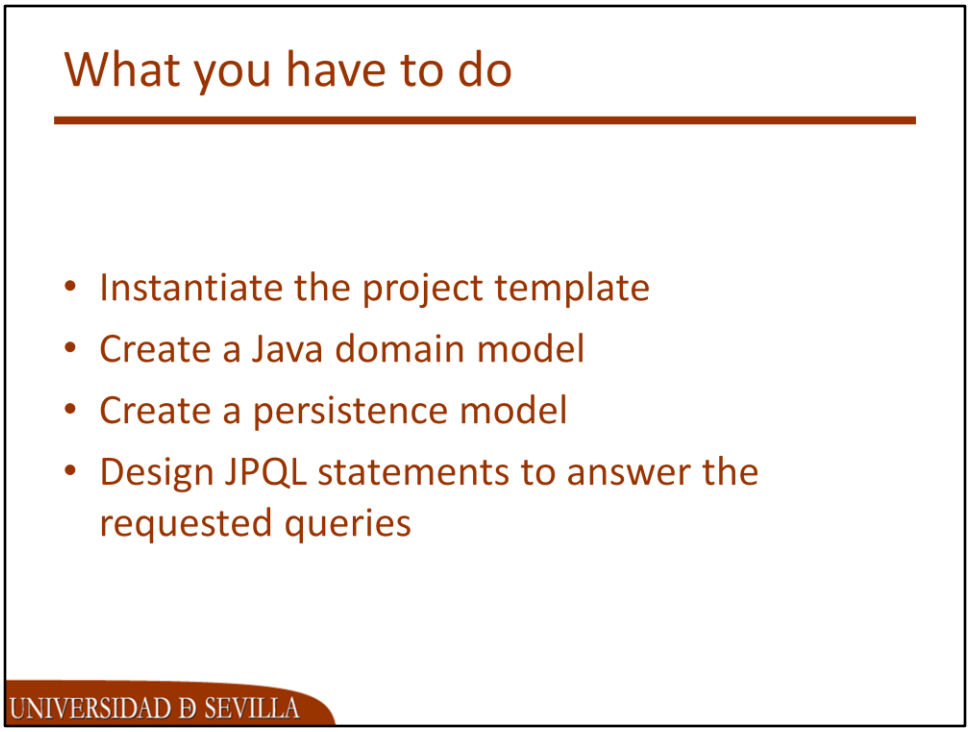
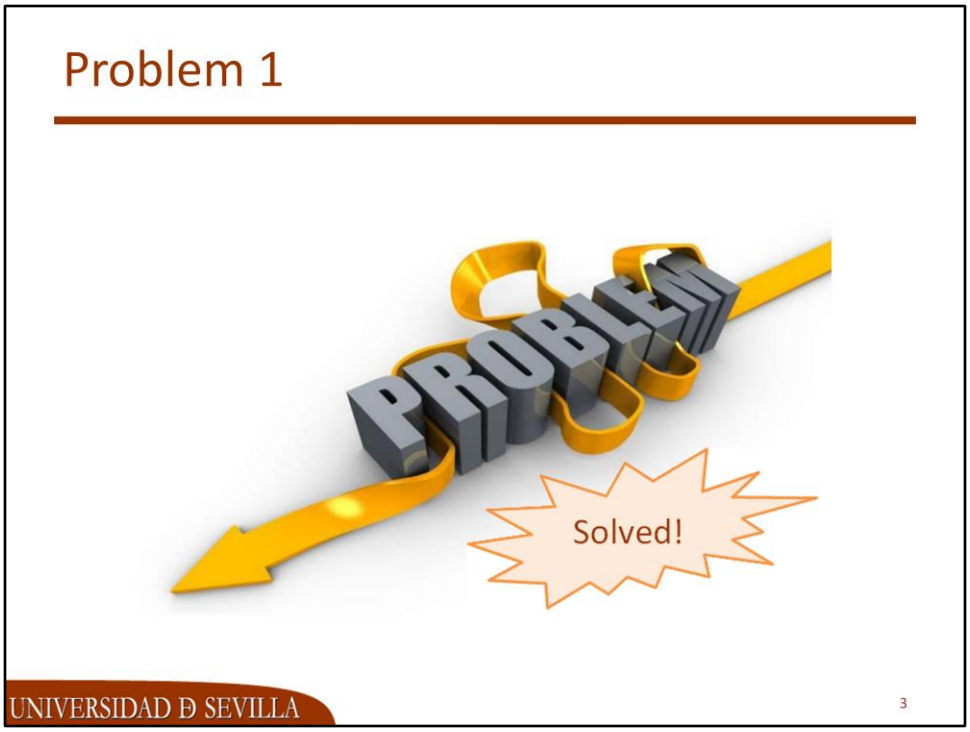


Here you have a description of what you have to do regarding the problems in these lecture notes.

NOTE: the problems on which we're going to work are very simple; they don't put an emphasis on defining who the actors are. As a conclusion, you don't have to create user accounts or authorities; you may leave the default user accounts and authorities that our project template provides.



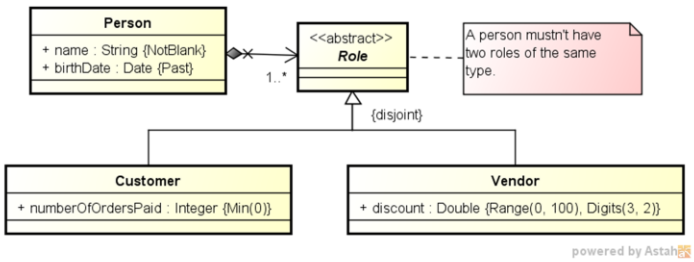
We provide a solution to the first problem. Please, check out the materials that accompany this lesson.

Informal conceptual model

- Acme needs to store the name and the birth date of the people they know about
- Acme classifies people into two groups: customers and vendors
- For every customer, Acme needs to know the total number of orders that he or she's paid
- For every vendor, Acme needs to know the discount that he or she can apply. (A discount is expressed as a two-decimal digit percentage.)

Here, we describe the conceptual model informally. If you have any doubts, please, consult your lecturer.

UML domain model



This is a UML domain model that captures the requirements in the previous slide.

Requested queries

- Select every person
- Select every person and their roles
- Select people who were born before October 31, 1980
- Select customers who have paid more than five orders
- Select vendors whose discount's greater than 25.00%

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These are the queries that you're requested to produce. In this case, we provide them in the materials that accompany this lesson.

Problem 2

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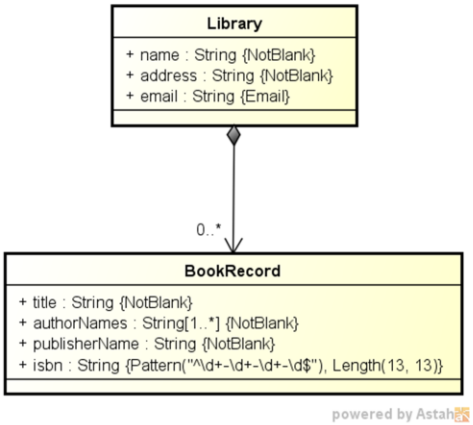
You have to solve problem 2.

Informal conceptual model

- Acme manages several libraries, each of which has a catalogue of books and information about them that is written in book records (physical small cards in big files)
- A library is characterised by a name, an address, and an email
- A book record has information about the title of a book, the names of its authors, the name of its publisher, and its 10-digit ISBN code

These paragraphs describe the conceptual model informally.

UML domain model



This is a simple UML domain model that represents the previous requirements.

Requested queries

- Select the book records from the library with identifier “4”
- Find the average number of authors per book
- Find the libraries that have at least two books
- Select the library names and the number of book records they have

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These are the queries that you have to produce. It might be the case that you don’t have a library with identifier “4”; please, change the identifiers where appropriate.

Problem 3

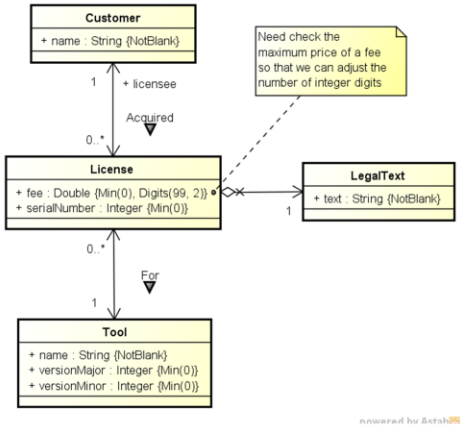
Next, we describe the third problem.

Informal conceptual model

- Acme manufactures software tools
- Each tool can be licensed to an arbitrary number of customers, each of which pays a fee for the license; nothing prevents a customer from acquiring two licenses of the same tool
- The licensees of a tool have a name, and the tools have a name and a version number
- Version numbers are of the form “X.Y”, where both “X” and “Y” are natural numbers
- Each license has a serial number, which is a natural number, and references a legal text that regulates the use of a tool by a licensee

In this slide, we describe the conceptual model that you have to implement informally.

UML domain model



This model represents the previous requirements in UML. Please, realise the yellow note.

Requested queries

- Select the customers who have at least two licenses
- Select the tools for which Acme hasn't sold any licenses
- Select the license serials, their corresponding licensee's names, and tool names
- Select the names of the tools and the sum of fees they've sold

These are the queries that you're requested to produce.

The next lecture

- We need (coerced) volunteers
- Volunteer collaboration is strongly advised
- Produce a solution and a presentation
- Rehearse your presentation at home!
- Each presentation is allocated 100/*N* min
- Presentations must account for feedback

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The next lecture is a problem lecture. We need some volunteers, who are expected to collaborate to produce a solution and a presentation. Please, rehearse your presentation at home taking into account that you have up to 100/*N* minutes per problem, including feedback, where *N* denotes the number of problems.

Thanks for attending this lesson!