

## Assignment: JPA/Hibernate: JPQL and Criteria API

Goal:

In this assignment, you learn to implement batch operations to the database.

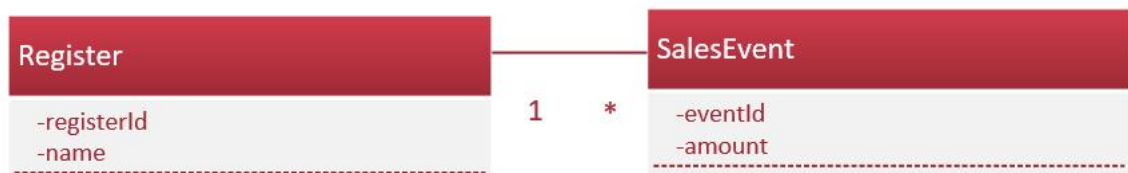
Instructions:

First, load the project template for this assignment: **Documents/JPA projects/Registers.zip**.

For deliverables of this assignment, submit a single pdf file containing the requested items (screenshots, source codes etc.) specified with each task below. Feel free to add your own comments, clarifications, and explanations.

The assignment is based on the grocery store class diagram below. The application generates the schema and the data into a H2 database. To use MariaDB instead, modify **persistence.xml** accordingly.

A **Register** refers to a cash register, or a sales terminal. A **SalesEvent** is generated whenever a customer buys something.



Assignments:

1. Implement the following Dao-methods with JPQL. Verify the correct operation at database level (e.g. using HeidiSQL). For each method, write a test call that demonstrates the correct behaviour.
  - a. a method that retrieves sales events whose amount is less than a given threshold (e.g. 20 euros). For each event, print the event data accompanied with the register data related to that event.
  - b. a method that adds a service fee into all sales events.
  - c. a method that deletes all sales events.
2. Implement the aforementioned operations with Criteria API.