# Homework: Entity Framework

This document defines the homework assignments from the ["Database Applications" Course @ Software University](https://softuni.bg/trainings/21/Database-Applications-Mar-2015). Please submit as homework a single zip / rar / 7z archive holding the solutions (source code) of all below described problems.

## Create a Database for Student System using JPA

Using **JPA and Hibernate**, create a data layer for a student system. Use the "code first" approach and annotated Java entity classes (no XML mappings). Define the following entities:

* **Student**: id, name, phone number, registration date, birthday
* **Course**: id, name, description, start date, end date, price
* **Resource**: id, name, type of resource (video / presentation / document / other), link
* **Homework**: id, content, content-type (e.g. application/pdf or application/zip), date and time

Additional requirements:

* Students can attend many courses
* Courses can have many students
* Courses can have many resources
* One course can have many homework submissions
* Homework submissions have a student (author) and a course

Add navigational properties in all models to simplify navigation.

Write a console application to add a few students, courses, resources and homework. Implement listing of all students along with their courses and homework submissions. Implement listing of all courses along with their resources. List all homework submissions along with their course and student. Find any "N+1 query problems" and fix them.

## Migrate Old Hibernate Project to JPA

You are given an old-style Hibernate project (based on XML mappings, without annotations), the first example from the Hibernate demo projects, holding the University database:



Your task is to migrate it to JPA with annotated Java classes. You are not allowed to use the native Hibernate APIs.