Preliminaries

For the following exercise I used IntelliJ IDEA. I provide IntelliJ projects that you can use. In the code and in the file `persistence.xml` you will need to adapt the path to your `university.db` file.

You could use another IDE if you prefer that, but then I won't be able to help you with the project setup. For example, you'll have to make sure that the IDE finds the required libraries in the `lib` folder.

The code is only tested with **JDK11**.

Exercise 1 (JDBC)

1. Understand the code in module `jdbc-assignment`.
2. Run the main function in class `JdbcExample`, it should output a list of instructors.
3. Adapt the code to output a list of departments with the average salary of their instructors.

Exercise 2 (JPA)

1. Understand the code in module `jpa-assignment`.
2. Run the main function in class `JPAExample`, it should output a list of instructors.
3. Adapt the code to output each department (not just the dept_name). For that, you'll have to write an appropriate `Department` class with a `toString` method and add it to `persistence.xml`.
4. Adapt the code to output each department together with the names of the instructors working for that department. For that, add a bidirectional relationship between `Instructor` and `Department`. In particular, the `Instructor` class will need a `department` member and the `Department` class will need an `instructors` member and a public `getInstructors` method.