Exercises: C# Auto Mapping Objects

This document defines the **exercise assignments** for the "Databases Advanced – EF Core" course @ Software University.

1. Employees Mapping

Create a simple database with one table – Employees. Each employee should have properties: **first name**, **last name**, **salary**, **birthday** and **address**. Only **first name**, **last name** and **salary** are **required**.

Create **EmployeeDto** class that will keep synthesized information about instances of Employee class (only **id**, **first name**, **last name** and **salary**).

Create a console app for your database, which uses the custom **Automapper** and the **EmployeeDto** class to **transfer data** from and back to the database. You should have the following commands:

- AddEmployee <firstName> <lastName> <salary> adds a new Employee to the database
- SetBirthday <employeeId> <date: "dd-MM-yyyy"> sets the birthday of the employee to the given date
- SetAddress <employeeId> <address> sets the address of the employee to the given string
- **EmployeeInfo** <**employeeId**> prints on the console the information for an employee in the format "ID: {employeeId} {firstName} {lastName} \${salary:f2}"
- EmployeePersonalInfo <employeeId> prints all the information for an employee in the following format:

```
ID: 1 - Pesho Ivanov - $1000.00
Birthday: 15-04-1976
Address: Sofia, ul. Vitosha 15
```

• Exit – closes the application

Bonus

Only use **DTOs** in your application. Use a **service** to connect to the **database**.

2. Manager Mapping

Add to the **Employee** model information about their **manager** and a list of **employees** that they **manage**. It is **possible** for an employee to have **no manager**. Create another data transfer object, which treats employees as managers:

ManagerDto – first name, last name, list of EmployeeDtos that he/she is in charge of and their count

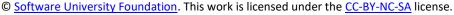
Add the following commands to your console application:

- SetManager <employeeId> <managerId> sets the second employee to be a manager of the first employee
- ManagerInfo <employeeId> prints on the console information about a manager in the following format:

Example

Sample output		
Steve	Jobbsen	Employees: 2
-	Stephen	Bjorn - \$4300.00
-	Kirilyc	Lefi - \$4400.00



















```
Carl Kormac | Employees: 14
    - Jurgen Straus - $1000.45
    - Moni Kozinac - $2030.99
    - Kopp Spidok - $2000.21
```

3. Projection

Add a few employees to your database with their birthdays. Create a command "ListEmployeesOlderThan <age>" which lists all employees older than given age and their managers. Order them by salary descending. Add the necessary DTOs and commands to your application.

Example

Sample output Steve Jobbsen - \$6000.20 - Manager: [no manager] Kirilyc Lefi - \$4400.00 - Manager: Jobbsen Stephen Bjorn - \$4300.00 - Manager: Jobbsen















