

CONCORDIA UNIVERSITY  
DEPARTMENT OF COMPUTER SCIENCE AND  
SOFTWARE ENGINEERING  
SOEN 342 – Sections H and II:  
Software Requirements and Deployment  
Fall 2025

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**Project Description: Iteration 1**

Date posted: Friday 19 September, 2025

Deadline for completion: Friday 10 October, 2025 at 23:59.

## DESCRIPTION OF THE CURRENT ITERATION

You are given a text file in a CSV format that contains records of train connections, modelling a railway network, among European cities. The records are structured as follows:

- Route ID,
- Departure City,
- Arrival City,
- Departure Time,
- Arrival Time,
- Train Type,
- Days of Operation,
- First Class ticket rate (in euro),
- Second Class ticket rate (in euro).

Your task is to build a software system (can be online or standalone) to load these records from the CSV file into memory and to allow a client to **Search for a Connection** using any parameter except the route-id parameter which is the only one that is not made public. The system should display all matches by presenting all parameters, plus trip duration (which needs to be calculated).

The system should allow a client to sort the displayed results according to parameters such as 'trip duration' and 'price.' Note that in the case where there is no direct connection between two cities, the system should be able to construct and present any and all possible indirect connections (1-stop and 2-stops only) and add 'time to change connection' in the displayed results.

Note that with the exception of the preliminary iteration, each other iteration is essentially a mini-project which contains its own unique sequence of activities (from analysis to implementation) and which produces a set of artifacts. Some of the artifacts produced in a current iteration are refined and/or extended by a later iteration. All artifacts must be placed in your GitHub workspace.

You must develop the system in an object-oriented environment using any programming language (or combination of languages) that you prefer.

Your software interacts with the outside world through an interface which is left up to you to decide what that should be and how it should be structured.

End of Iteration 1