# Introduction

in this assignment, a railway timetable of some major stations in Belgium was provided. It included 8 transfers, 3 at Hasselt station and 5 at Leuven station that were to be considered in the timetable as shown in Figure 1.

Diagram, schematic

Description automatically generated

Figure Transfers to be considered in the timetable

The data was provided in the form of 2 files as below:

## *basis.ltx* (Lindo file)

Lindo file made sure that the total passenger cost was minimized subjected to the all the necessary constraints like minimum transfer times, minimum stopping time at a station etc.

## *basis.m* (Matlab file)

the timetable obtained from the lindo file was subjected to a random simulation in the basis.m file. This simulation tested the timetable for 5000 cycles and calculated the results in the form of:

* **Percentage missed**

Percentage of people that missed their transfer

* **Percentage long**
* **Stopping cost**
* **Total cost arriving late**
* **Total delay**
* **Total cost through passengers**
* **Total cost of transfers**
* **Total cost**

# Figuring out the areas with major contributions to total cost

# Attempts to optimize those areas

# Coming up with the final solutions

# Presenting the solutions