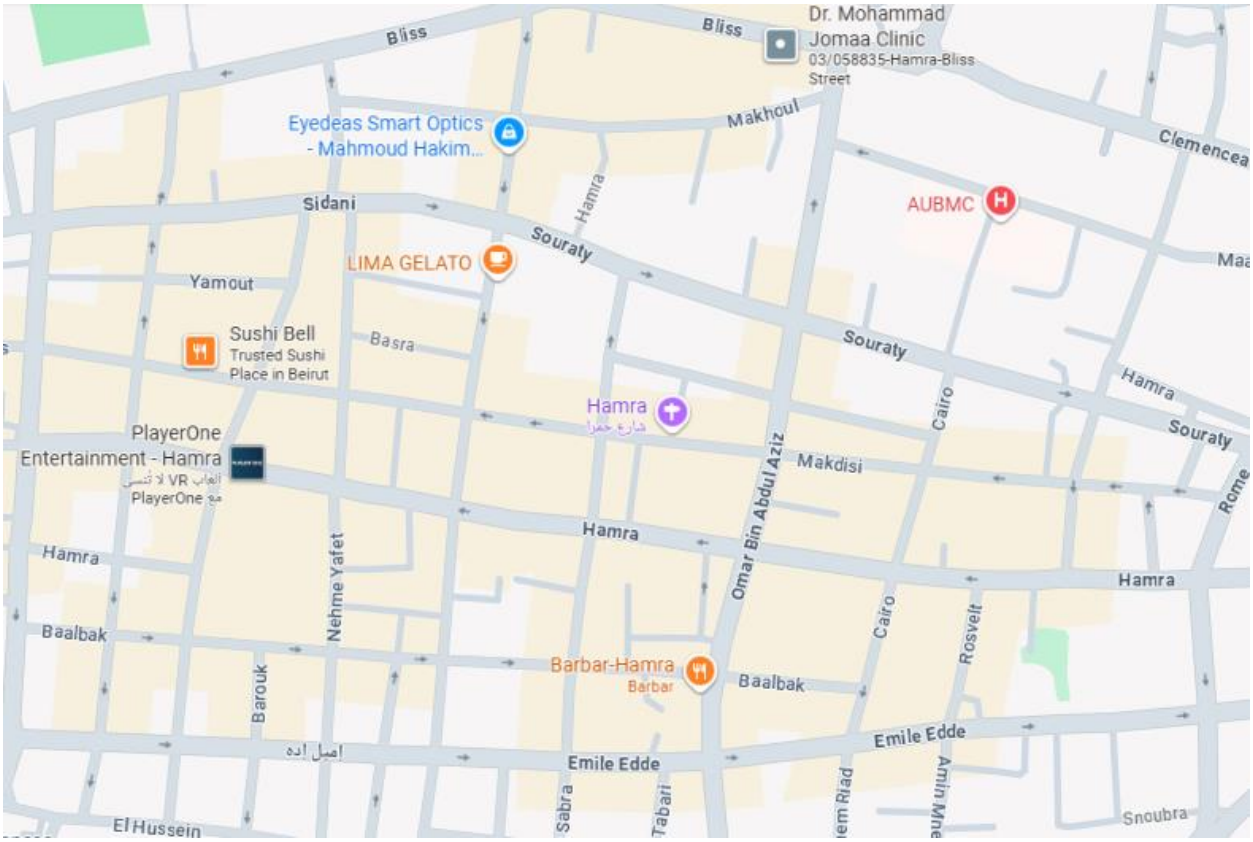
Lebanese American University

CSC310B – Algorithms LAB

Course Project – Spring 2025

Hamra walking Guide

Your project is to model Hamra map and produce a walking guidance application,



Steps:

- Locate and Count the connecting points:
  - A connecting point could be a building, a block or an intersection between multiple paths, etc..
  - Find the distance between connecting points
  - Create a class called connecting points with attribute
    - Kind: building, intersection,..
    - Name:
    - Coordinates (x, y) // design your coordinate system

- Make a graph where each vertex is a connecting point
  - Make a list of edges that represent the path between each 2 connecting point
  - The edges are not directed and has the following attributes: Distance, Direction

The application is very simple:

- Ask the user for his/her location in Hamra
- Ask the user where to go
- Show the shortest path with directions, example:
- Start at Lau
- Go left 100 meters to x building
- Go right 700 meters to Crepaway rest
- Go right 800 meters to starbucks
- …..

The project is scheduled in phases:

Phase 1 (very simple)

- Choose the vertex points
- Implement the class
- In this phase you submit a pdf showing the map with the points + the Java file of the class
- **Due date: October 23, 2025 (midnight)**

Phase 2

- Implement the graph, add the points and add the edges
- Submit a Java file
- **Due Date: October 30, 2025 (midnight)**

Phase 3

- Make the full application with a main program with the above functionalities
- Submit a Java file plus a pdf document describing your application
- **Due Date: November 27, 2025 (midnight)**

Note: everyone will present his/her code to me in different times after the deadline