

CS355 – Programming Language Design

Final Project Spring 2021

Each student requires to submit a Zip file through Canvas.

You need to write a Scala code to use the Dijkstra algorithm to find the shortest path from Home to Work (refer to the below graph).

Dijkstra algorithm allows finding the shortest path in a graph.

The algorithm is as follows:

1. Choose the start node and consider it as the current node
2. Repeat the following steps until the current node is the end node
 - 2.1. Find all the accessible nodes from the current node
 - 2.2. Calculate the distance to access unvisited nodes
 - 2.3. Mark the current node as visited
 - 2.4. Choose the node with less distance
3. Print the shortest path

There are different ways to write this code.

In this project, you need to write **functional programming**. (The imperative programming approach will lose 40% of the grade)

Hint- in Functional programming, you replacing loops with recursion and replacing Global mutable state with a passed around parameter).

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