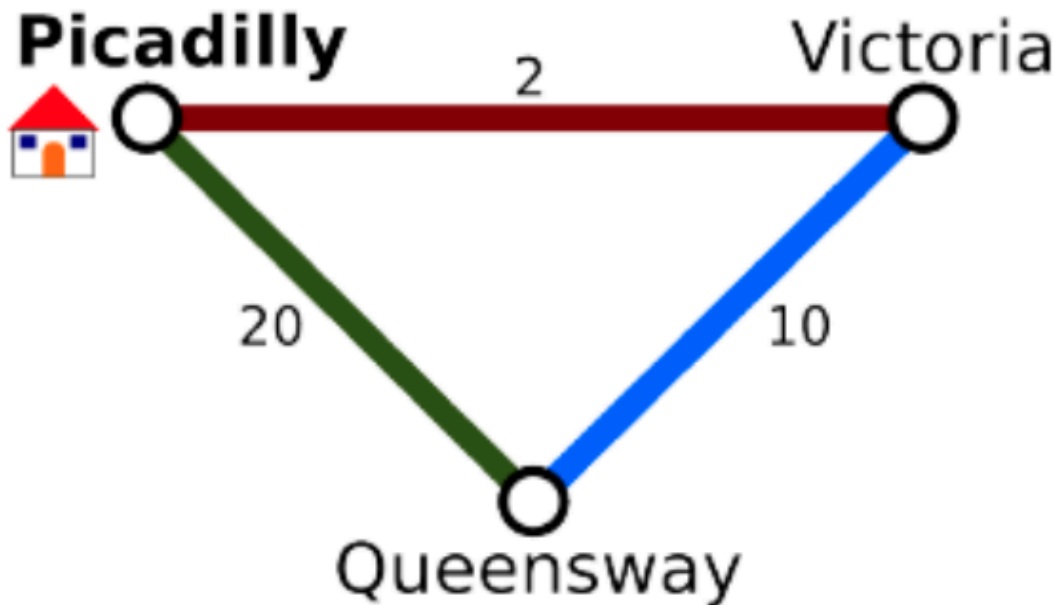# Programming Assignment - 3 (Part A)

- Gautam Khosla

Introduction

This assignment consists of two parts, both of which utilize the concepts of a minimum spanning tree (MST) and graph algorithms:

- The "Expensive Subway" problem is resolved in Part A (Main.java), which calculates the lowest cost to connect all the stations, alongside reporting the feasibility.
- The Paris metro network (ParisMetro.java) identifies "hub stations," creates a reduced graph on those hubs, and determines the cost-efficient set of segments connecting all hubs.

Part 1 - Analysis

Station names are read into an ArrayList<String> and mapped to integer indices with a HashMap<String, Integer>. All connections are stored as an Edge in an ArrayList<Edge>.

I utilized Kruskal's algorithm with a Partition structure.

The runtime post 2 unsuccessful attempts was 1.140s.

My Submissions

#	Problem	Verdict	Language	Run Time	Submission Date
30849528	11710 Expensive subway	Accepted	JAVA	1.140	2025-11-30 04:32:44
30849523	11710 Expensive subway	Runtime error	JAVA	0.000	2025-11-30 04:30:08
30849521	11710 Expensive subway	Runtime error	JAVA	0.000	2025-11-30 04:29:35

<< Start < Prev 1 Next > End >>

Display # 30 ∨ Results 1 - 3 of 3

Test Outputs:

Test File Names	Output
test1.txt	12 Impossible
test2.txt	45
test3.txt	Impossible
test4.txt	Impossible
test5.txt	0
test6.txt	45

References

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