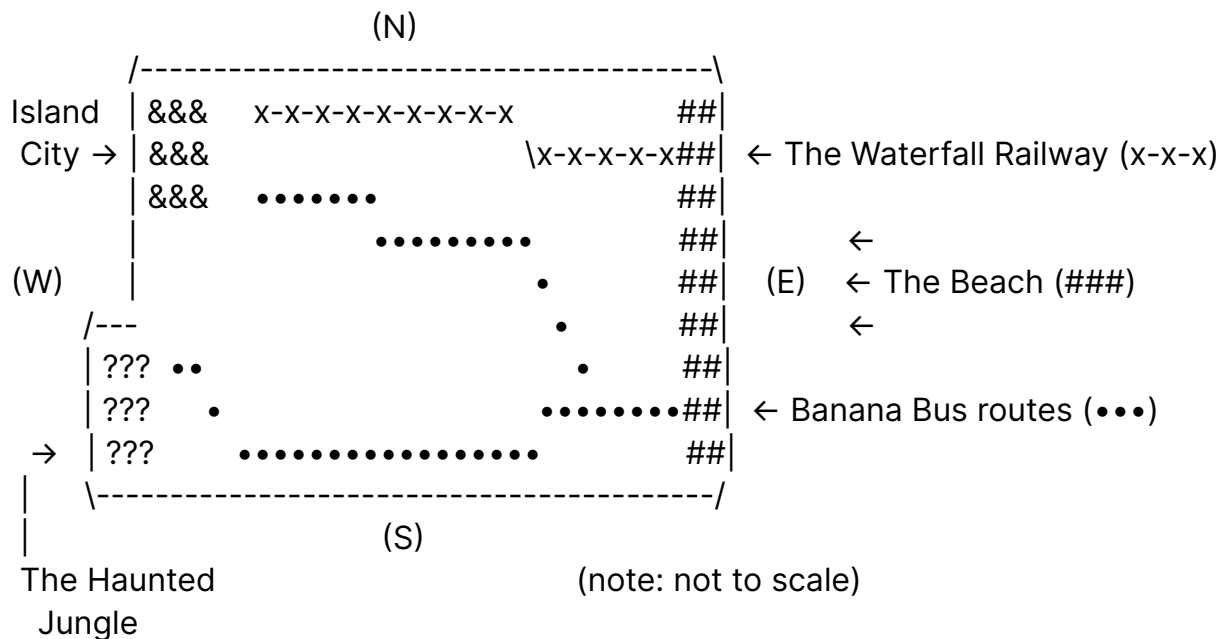


Transportation Data Analyst Take-Home Assignment

When a Citymapper team holiday goes tragically wrong, Emily and Gabriel find themselves stranded on a tropical island. They decide to spend their time waiting for rescue by answering the universe's hardest transit questions.

With help from some friendly locals, Emily and Gabriel build some things:

1. Emily builds The Waterfall Railway: a little train line running along the northern end of the island to Island City.
2. Gabriel builds Banana Buses, which connect various parts of the island to the beach.
3. Together, they build a navigation app called IslandMapper, to help themselves and their new island friends get around.



Emily and Gabriel sit down one day under a palm tree and read through the feedback they've received for IslandMapper, and they find 4 issues with IslandMapper's data.

Using the included GTFS file which contains all of IslandMapper's schedules for a 30-minute window, see if you can work out what's causing these issues, and how they might be fixed.

1. The Waterfall Railway is the suggested route for getting from The Beach to Island City. But during Monsoon season, many people living on the southern end of the beach say they prefer Banana Buses. By looking at the data, can you suggest why this might be?
2. Many people catching Banana Buses from the beach find themselves accidentally catching the wrong one and ending up in the Haunted Jungle instead. What could be improved in the data to help prevent this, and what specifically would you change?
3. The GTFS file specifies Waterfall Railway and Banana Bus schedules in different ways. If you were standing in the middle of The Beach at 14:23, which would you be more likely to see first: a Waterfall Train or a Banana Bus? Explain why you think this, and why you may be wrong.
4. A number of bug reports have come in about the IslandMapper app mysteriously crashing when people enter The Haunted Jungle. Except for ghosts, can you suggest what may be causing the crash by looking at the data and seeing if there's anything special about The Haunted Jungle?