\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**Data Warehousing Group Assignment**

**– Chaya Chandana Doddaiggaluru Appajigowda**

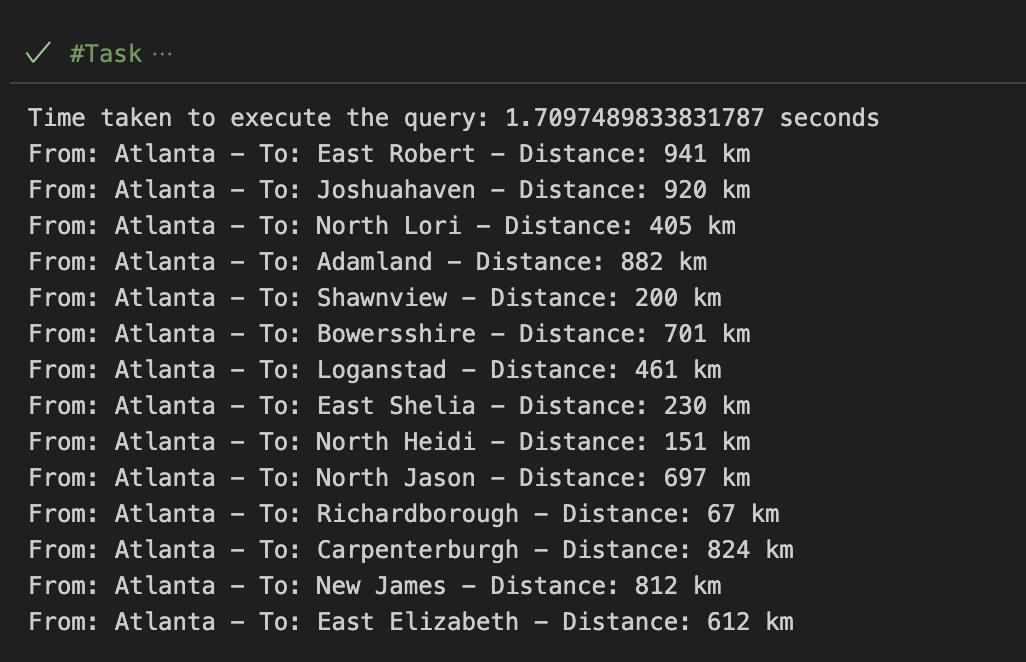
**Sean Franco**

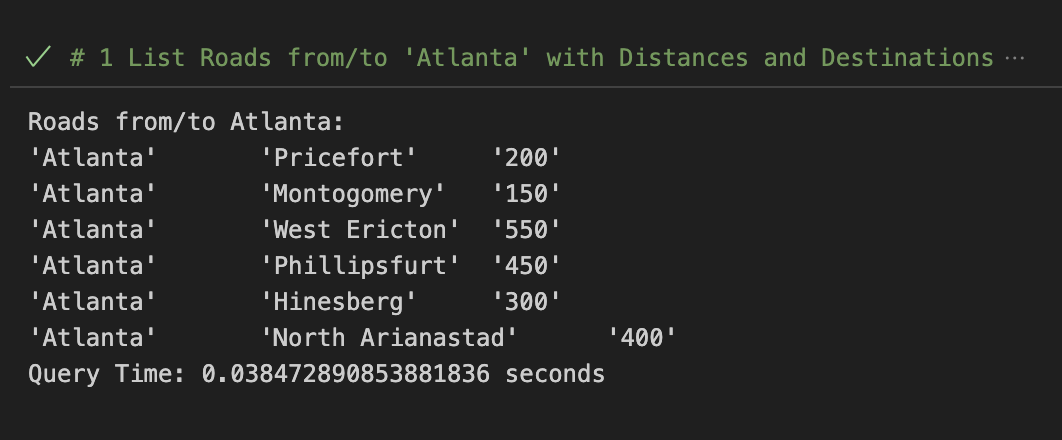
**Ujjawal Dwivedi**

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**Part 1: Basic Querying and Data Analysis**

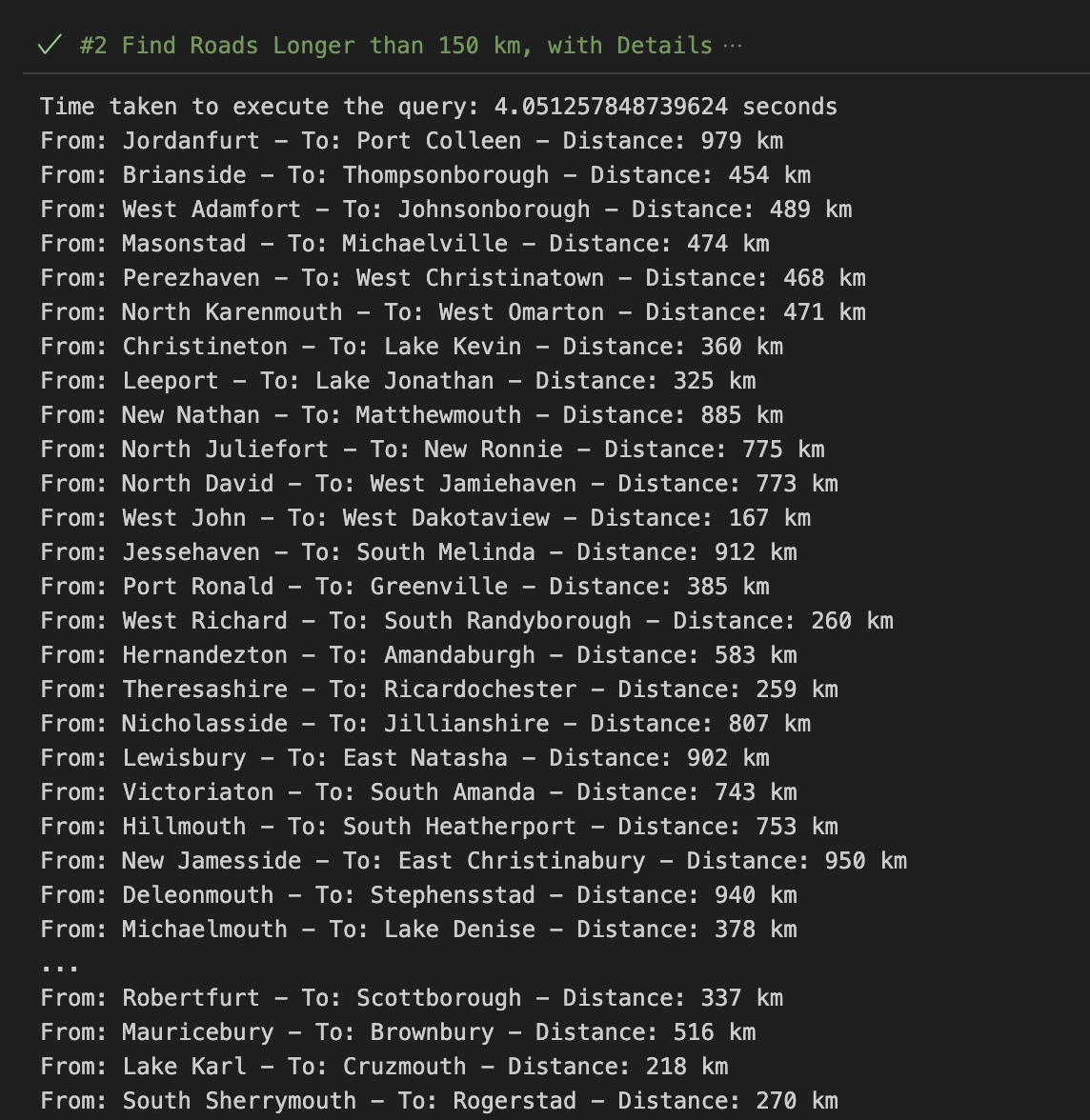
**1. List Roads from/to 'Atlanta' with Distances and Destinations:**

**MongoDB:** 

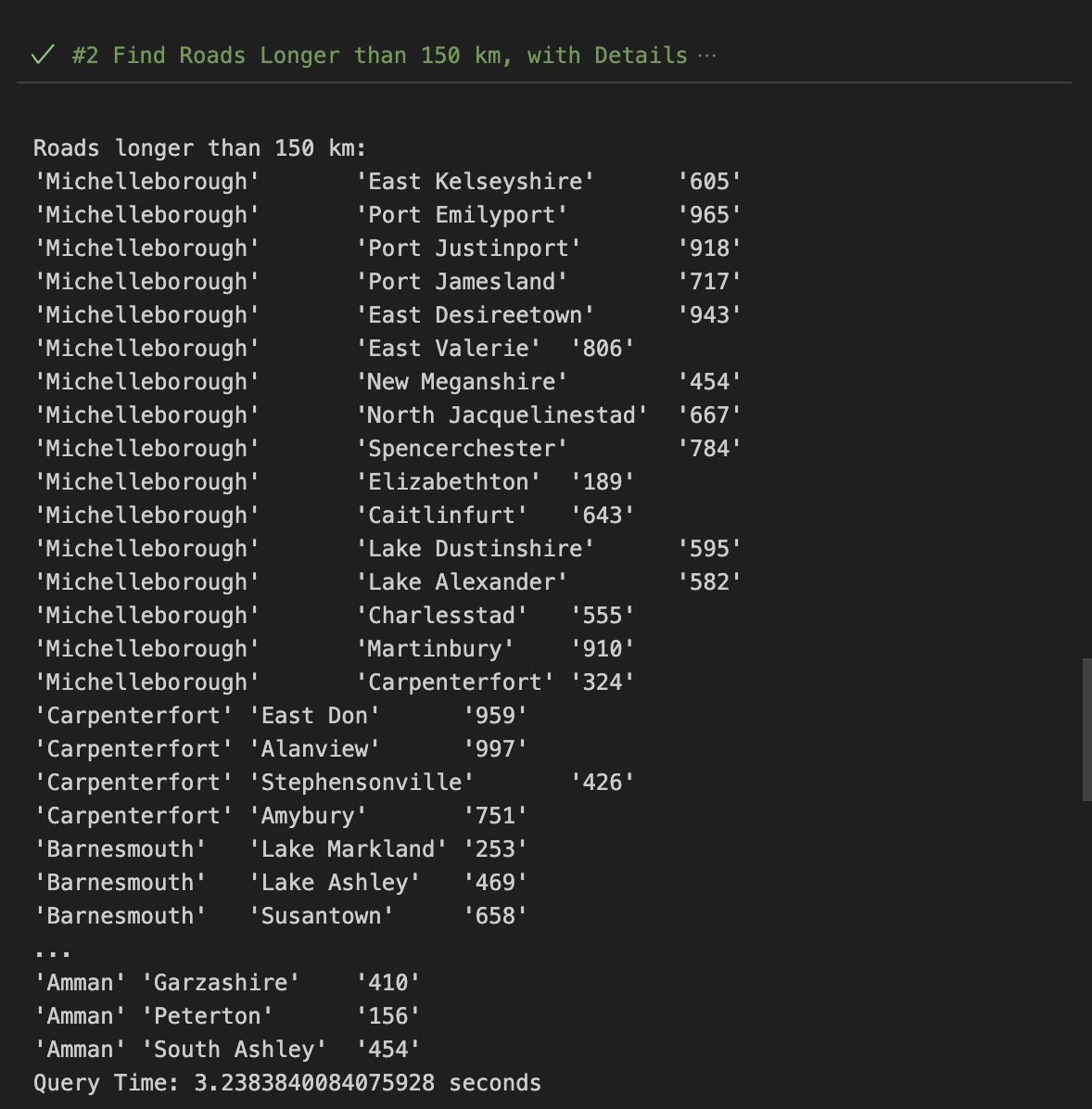
**Neo4j:**

**2. Find Roads Longer than 150 km, with Details:**

**MongoDB:**

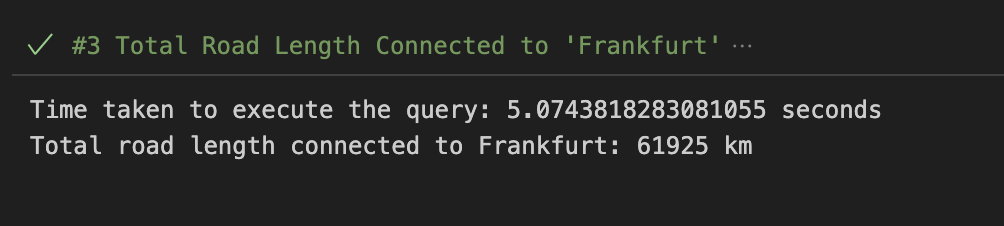


**Neo4j:**

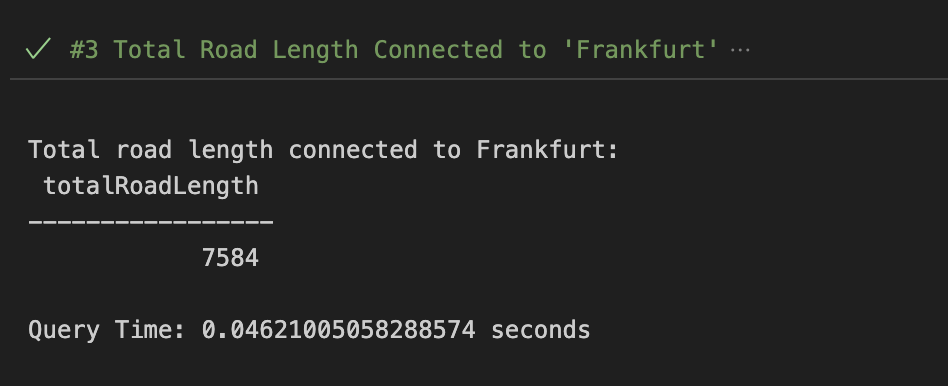


**3. Total Road Length Connected to 'Frankfurt':**

**MongoDB:**



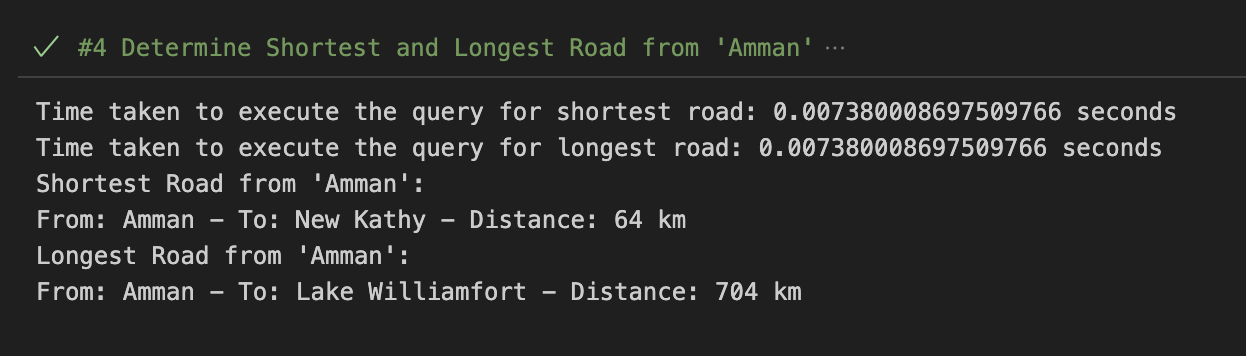
**Neo4j:**



**4. Determine Shortest and Longest Road from 'Amman':**

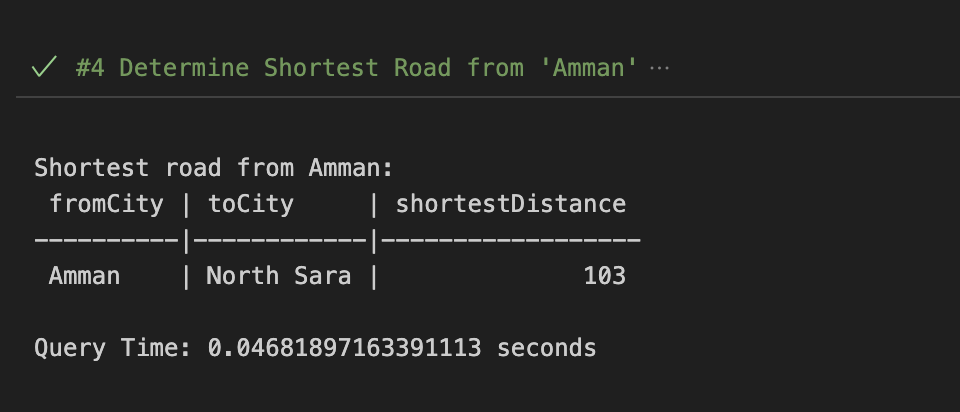
**MongoDB:**

**Shortest and Longest:**



**Neo4j:**

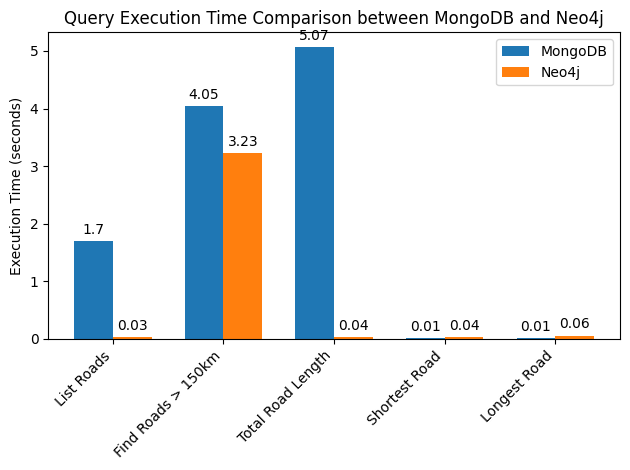
**Shortest:**



**Longest:**



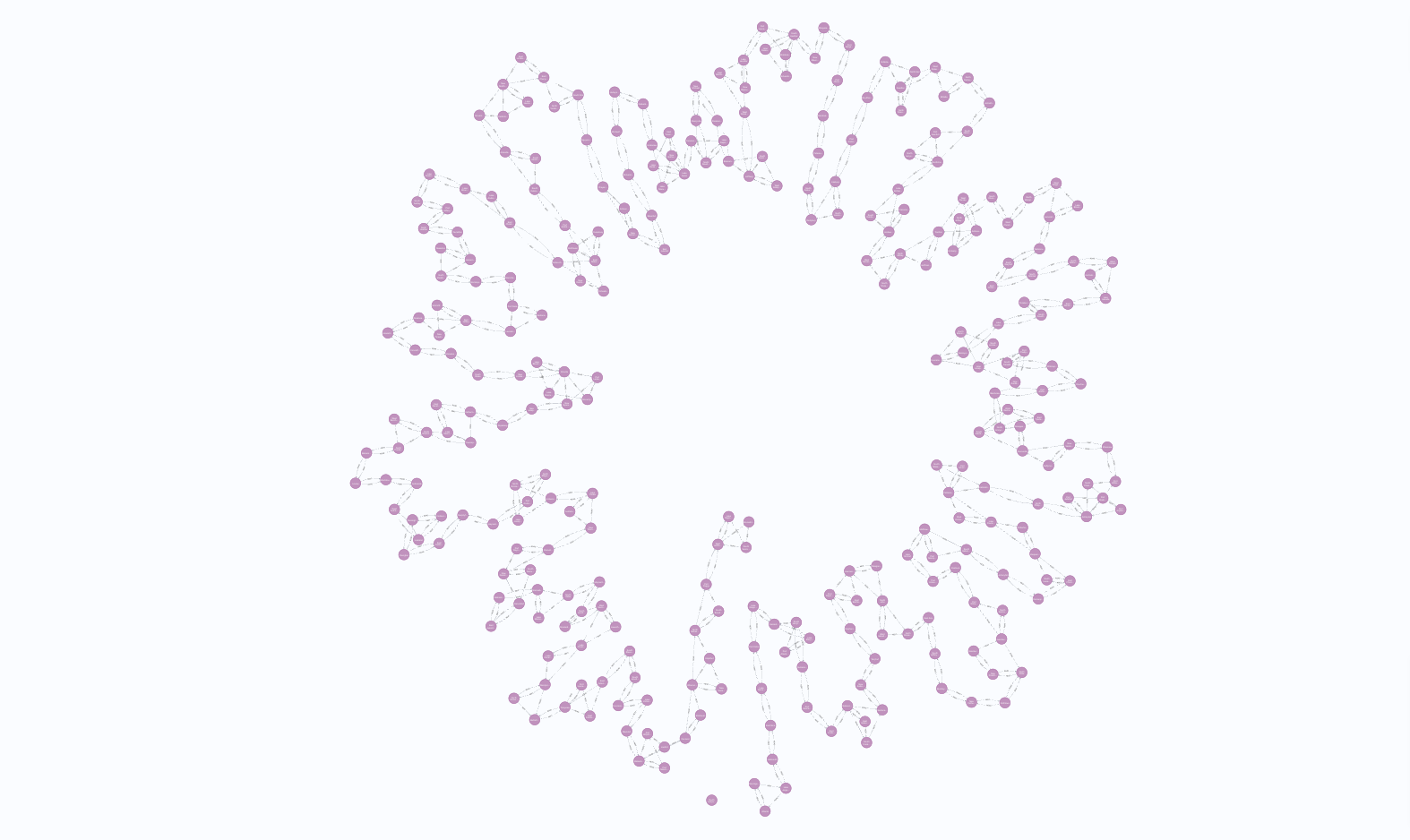
**Time Comparison Between MongoDB and Neo4j:**

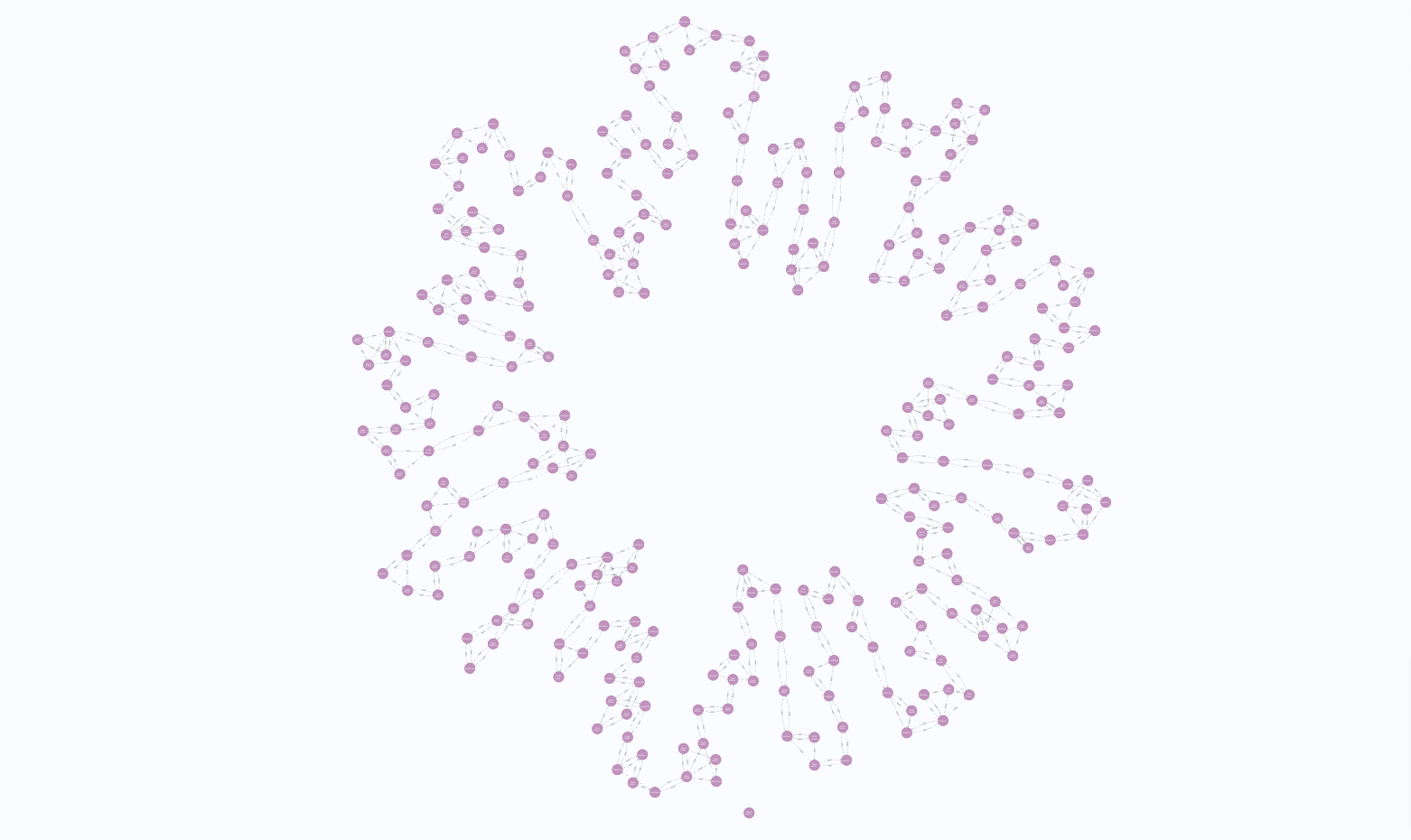


#### **Part 2: Graph Algorithm in Neo4j' Graph Data Science Library**

**1. Depth First Search (DFS):**

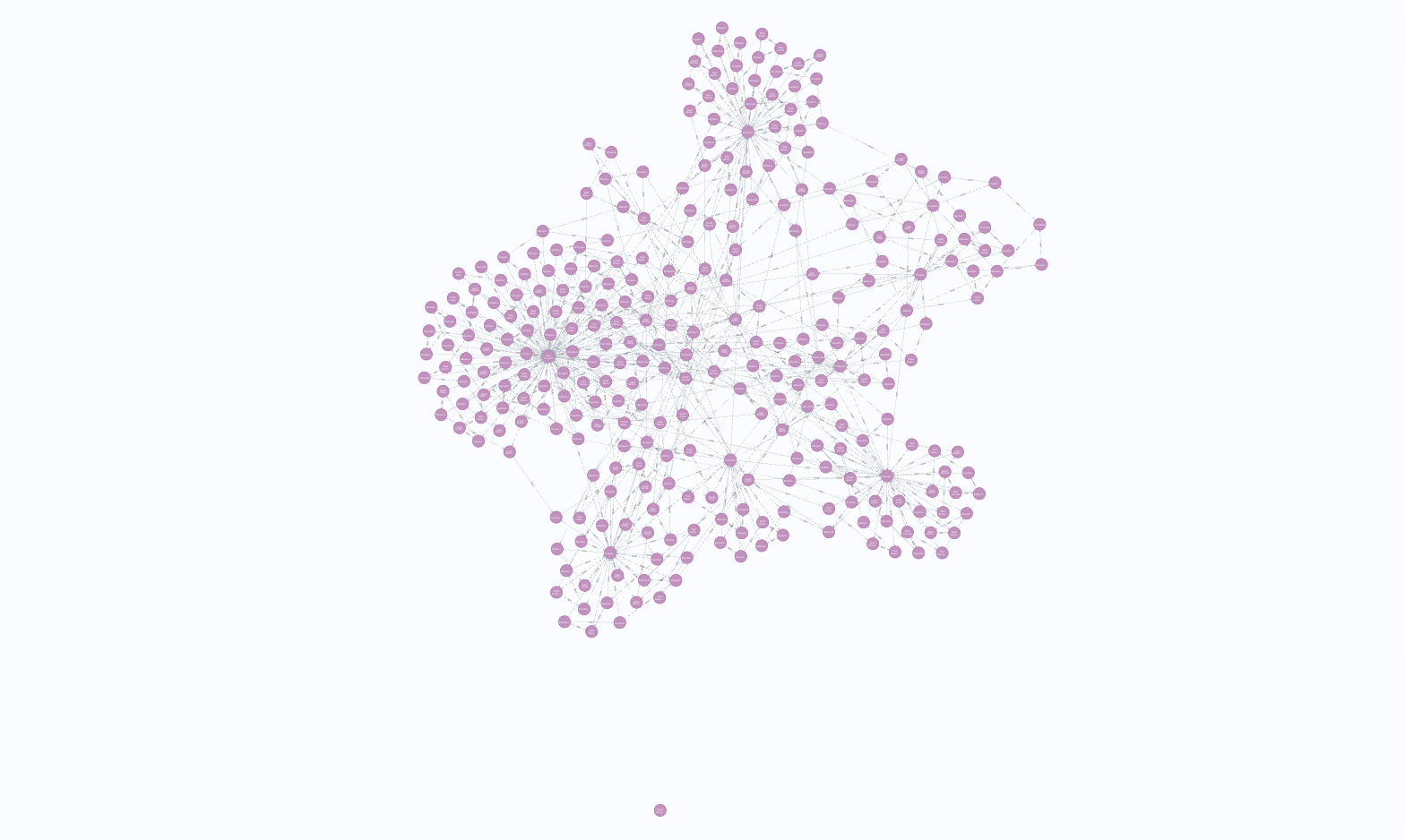
**Task 1: DFS from 'Atlanta':**

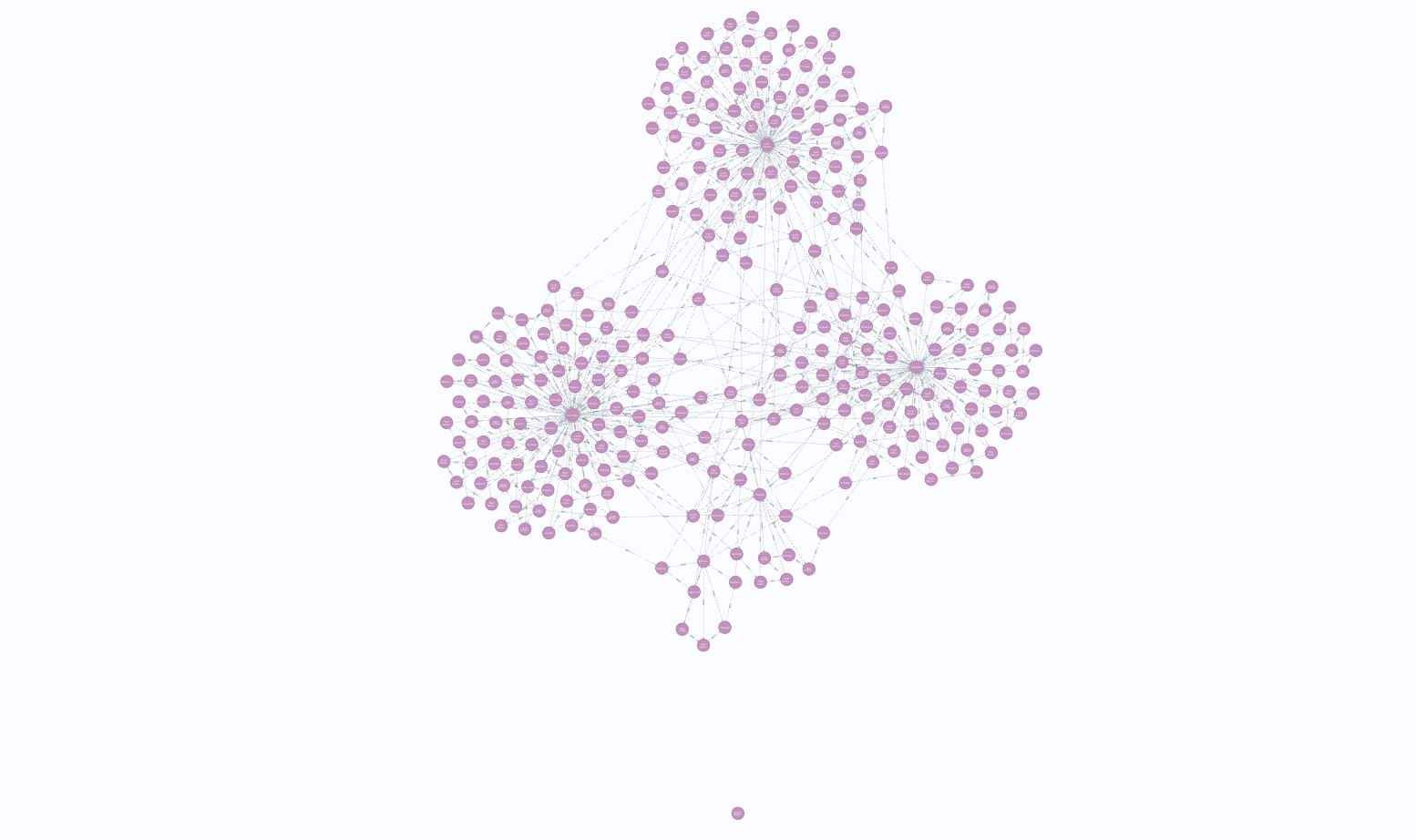
**Task 2: DFS from Frankfurt:**



**2. First Search (BFS):**

**Task 3: BFS from 'Atlanta':**

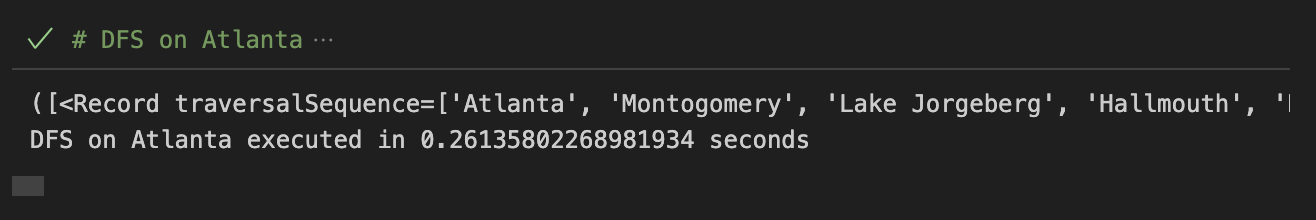
**Task 4: BFS from Frankfurt:**



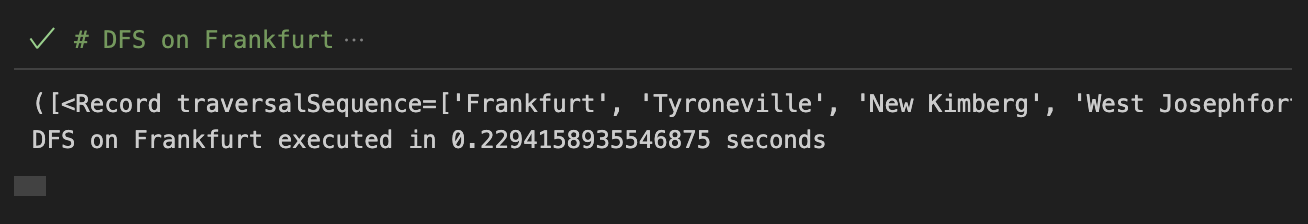
**3. Visualization and Timing Analysis:**

**Task 5.1: DFS Timing and Visualization:**

**Atlanta:**

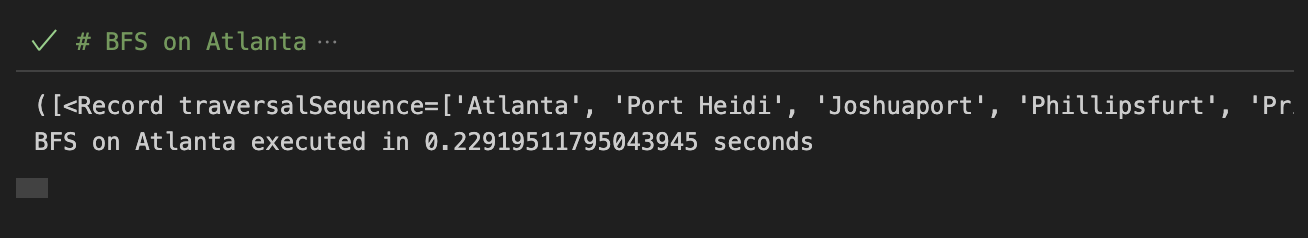


**Frankfurt:**

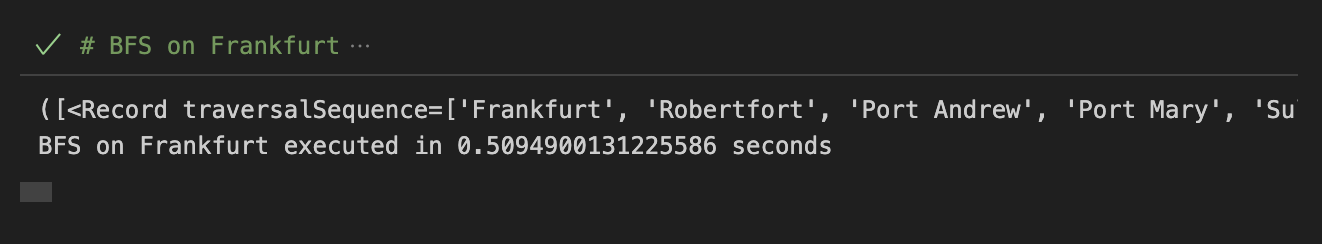


**Task 5.2: BFS Timing and Visualization:**

**Atlanta:**



**Frankfurt:**



**Task 5.3: Direct DFS and BFS Comparison:**

