Graph Analytics for Python Developers

Assignment 3

Version 1.0

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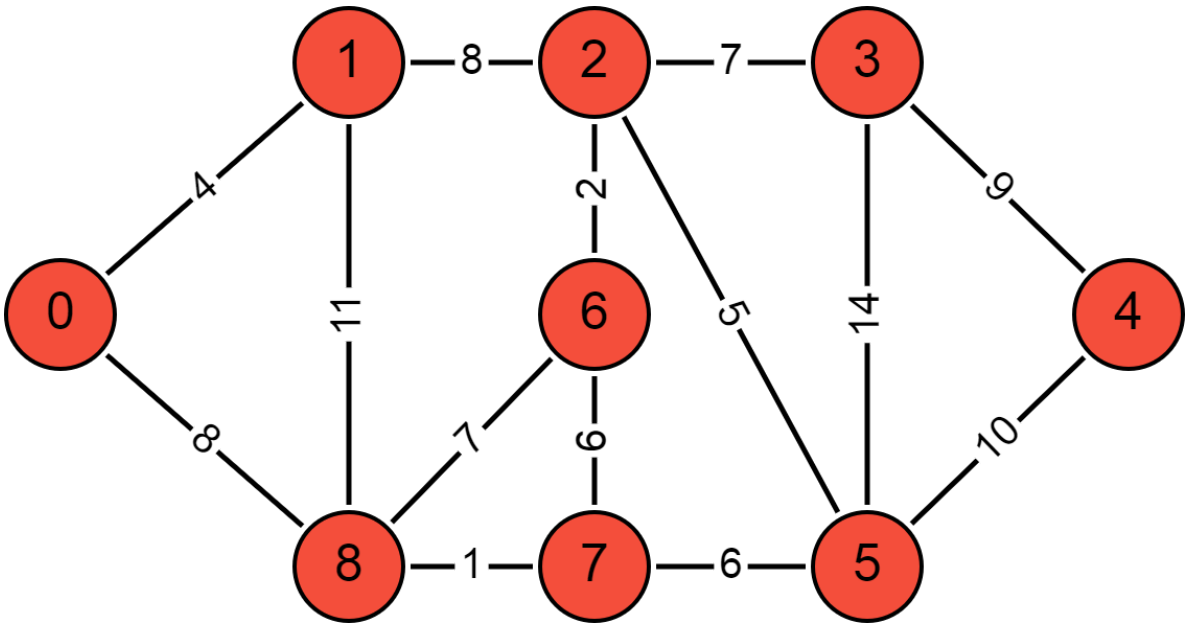
The goal of this assignment is to understand the graph algorithms we discussed during the third lecture. The task will be performing some of the algorithms on the graph below:



You can try to generate the graph by yourself, or you can find the graph in adjacency list form here. The format of the file is the same as the one used for Dijkstra's algorithm in the third lecture.

The requirements are:

- Calculate **Dijkstra's algorithm** from node 0 to node 4. When you send us the completed assignment, provide the shortest path you found and its length.
- Construct a tree with the **BFS algorithm** starting from node 7. Visualize the constructed tree and add the image to the code on GitHub.
- Construct a tree with the **DFS algorithm** starting from node 7. Visualize the constructed tree and add the image to the code on GitHub.
- Use the **Page Rank algorithm** to find the node with the highest ranking.

Reference Guide links

Breadth-First Search	NetworkX Reference Guide Link
Depth-First Search	NetworkX Reference Guide Link
Dijkstra's algorithm	NetworkX Reference Guide Link
Page Rank	NetworkX Reference Guide Link

How to submit the assignment?

Upload your code to a GitHub repository and send us the link to ivan.despot@memgraph.com.

Because all assignments will be submitted using GitHub, we recommend creating one repository where you will upload all of the assignments.