Exercise 10: Braided Graph (20 points)

**Due: 17.07.2023 8AM**

**Contributor 1:**

**Contributor 2:**

**Task 1: (12 points)**

**Chart, histogram

Description automatically generated**

For this exercise, your task is to create a braided graph of the appended *stonks.js* dataset as shown in the figure above. You may use your ownpreviously written code as orientation.

Mind the following hints as orientation:

When building the visualization, it makes sense to group the data by its days. For each day, create a *g* element. Draw a respective *path* element between the current and the next timestamp for each stock within each created *g*. Think of plotting the higher value first to make the smaller elements visible.

Additional Hint: To avoid vertical rendering lines between the paths, set the css attribute *shape-rendering. (*[*https://developer.mozilla.org/en-US/docs/Web/SVG/Attribute/shape-rendering*](https://developer.mozilla.org/en-US/docs/Web/SVG/Attribute/shape-rendering)*)*

*sssshape-rendering: auto shape-rendering: crispEdges*

Background pattern

Description automatically generatedspacespacespace![Shape, square

Description automatically generated]()

**Task 2: (8 points)**

**2a)** Name and explain two advantages of node-link diagrams for representing relational data.

**2b)** Explain the overplotting problem in node-link diagrams. Illustrate with an example.

Hint: For the illustration, can include an image based on your own past work or from a third-party source (remember to add a reference, e.g., a URL when taking an example from a different source).

**2c)** Give an example of how you can use a node-link diagram to show the hierarchical relationship in data. Name two disadvantages associated with your example.

**2d)** Define: "adjacency matrix" in your own words. Draw the adjacency matrix of the following graph:

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Hint: You can include a photo of your hand-drawn solution. Please make sure, that it’s easily readable.

**Submission: Zipped folder including all necessary files to display the visualizations. Please state both your names on the submission.**