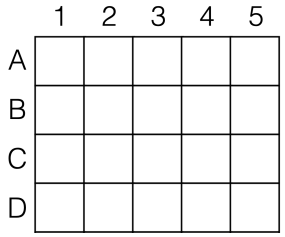
Project 2

In this project, you need to read “Direct Manipulation Interfaces” by Hutchins et al., in the attachment, and implement the concept of direct manipulation for matrix ordering.

You are encouraged to work on this project in a team and each team can have at most 2 students.

Given a matrix with 4 rows and 5 columns (see the following picture), you need to design interactions based on the direct manipulation concept. With your designed interactions, this matrix can be ordered. You need to decide which type of ordering that your designed interactions support (e.g., ordering by rows, ordering by columns, ordering by both rows and columns), and how the ordering is computed.



Implement your design with D3. In the webpage, you can only show a matrix, similar to the one in the above picture, without using any other UI widget. You can assign a random value to each cell in this matrix, which may help you to verify the ordering results.

You should write a paragraph in the webpage to explain what a user can do to order the matrix.

You should use good software engineering practices. Comment your code, use consistent formatting, use meaningful variable names, separate etc.