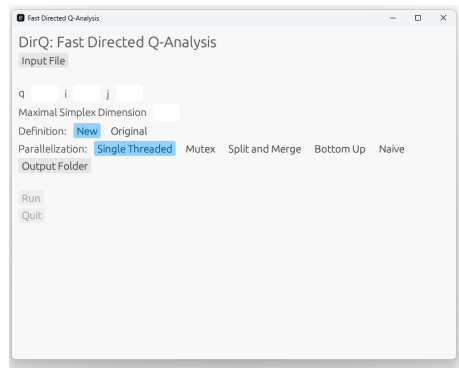# DirQ User Guide

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April 2025

We present a guide on how to use DirQ to compute (q, i, j)-digraphs and analyze them.

You can download the compiled binaries of DirQ for your operating system (Windows or Linux) from the TU Graz Repository. You can then simply unzip the folder and execute `directed_q_win64.exe` (Windows) or `directed_q_linux` (Linux), which should open the following Window:
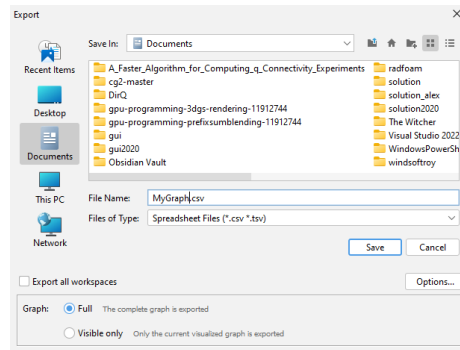

Also make sure that you have downloaded and installed Gephi. For this guide we will assume that the input graph is in one of the following formats:
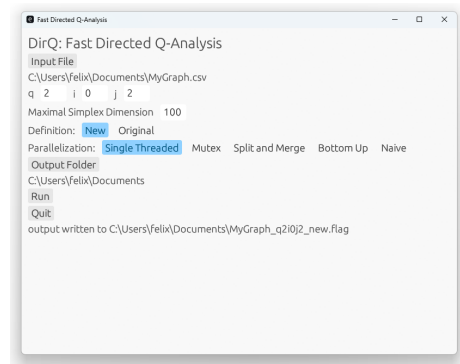
- GEXF

- GDF

- GML

- GraphML

- Pajek NET

- GraphViz DOT

- CSV

- UCINET DL

- Tulip TPL

- Netdraw VNA

Launch Gephi and select *Open Graph File* to import your graph (you can also use one of the available sample graphs for a simple test). Then, go to *File/Export/Graph File...* and select for *Files of Type* the option *Spreadsheet Files (*.csv *.tsv)* and hit *Save*.

Then, go back to the *DirQ* Window and select your exported CSV file as Input File. Enter the values for q, i, j and the maximal simplex dimension and choose either the new or original definition of directed q-nearness. Finally, select the path for the output folder and hit *Run*. You can then find the computed (q, i, j)-digraph in the output folder as `YourGraph_qXiXjX_new.csv` or similar. This is what the window will look like after succesful computation:

If the computation takes too long or crashes, adjust your value of q.

You can open this file with Gephi as before. In the *Statistics* window of Gephi you can then start analyzing the (q, i, j)-digraph for example to find centralities and average path lengths. More infos on Gephi can be found here.