

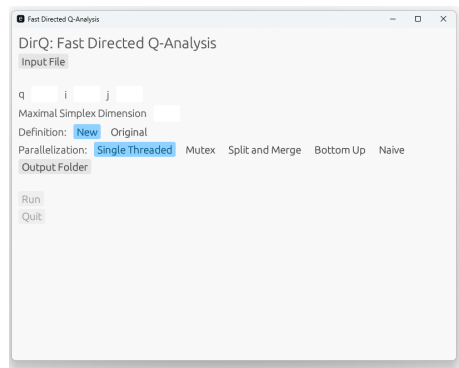
DirQ User Guide

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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: [INSERT LINK](#). 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:

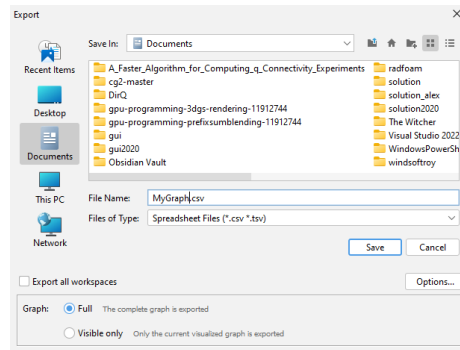


Also make sure that you have downloaded and installed Gephi. For this guide we will assume that the input graph is in one of the following formats:

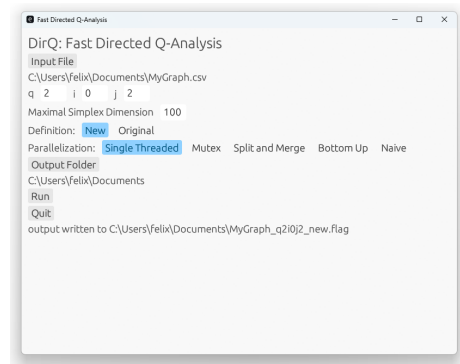
- GEXF
- GDF
- GML
- GraphML
- Pajek NET
- GraphViz DOT
- CSV

- 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](#).