

## User Manual for Graph Algorithm Visualization

### Starting the Program

1. Download the project from eLearning.
2. Navigate to the folder out/artifacts/
3. Double click the GraphVis.jar Executable Jar file on Windows. If on Linux, open in terminal and run `java -jar GraphVis.jar`
4. Throughout the program, a helpful message is displaying in the top left "Message" section that will inform you of what to do next based off of where you currently are in the program execution.

### Running Graph/Algorithm Functionality

1. Click "Add Nodes" to begin creating a graph.
2. Click where you will like to add nodes/vertices on the screen.
3. When prompted, enter in a value for the node/vertex.
4. If you want a weighted or directed graph, check the box corresponding to your choice before adding edges to the graph.
5. Click "Add Edges" to add edges to the graph.
6. Follow the instructions in the Message box to add edges, specifying weights if weighted.
7. Select the algorithm you want to run in the drop down menu under "Select Algorithm".
8. Click "Run Algorithm" to begin algorithm execution.
9. When prompted in the message box, specify starting/ending nodes by selecting them on the screen.
10. You can select to step through graph using the "Step Backward" and "Step Forward" buttons, or you can just run through it automatically by pressing "Play". To pause the automatic visualization at any time, press "Pause".
11. To stop a currently running algorithm, click any button in the Graph Creation menu, or specify a new algorithm to run in the Select Algorithm menu.
12. To delete the graph, click the "Delete All" button.
13. Close application when finished.

### Notes:

Delete a Node, Delete an Edge, and Kruskal's currently do not work correctly.

Directed Graphs will work properly with the algorithms as expected, but we couldn't get arrowheads to display indicating the direction on the graph visualization.