For Students – Graph Visualizer:

Uses:

1) To help visualize the graph you build in Part 2
2) To help visualize what path your algorithm is generating in Part 3 vs. true Dijkstra path

Warnings:

- **DO NOT** rely on this tool alone to debug, this is a new **experimental tool** that **might have bugs**
    - Feel free to report any issues to piazza, but don't assume an instant fix
- **Graph** Structure/**Shape might change** each time you run the code (doesn't mean your code changed, just an artifact of the library we're using), as long as your nodes and edges are properly connected, you're fine
- **Sypder** users can view the graphs on the "plots" tab, but they often appear really blurry. The actual graph files should be in your pset hw folder, so it's probably better to open them from there (by double clicking the files). The names are:
    - Part 2: ps2_part2_sandbox.png
    - Part 3: ps2_part3_dijkstra_sandbox.png

Quick Start:

Installation:

For Spyder Users: In your **console** run these commands in order:

- **conda install -c conda-forge python-graphviz**
- **conda install -c anaconda pydot**
- **conda install -c anaconda networkx**

For VSCode Users: In the **Terminal** run these commands:

- **pip install graphviz**
- **pip install networkx**
- **pip install pydot**

Part 2:

Spyder (type in Console):

Command to run: **runfile('ps2_sandbox.py', args='2 maps/<name of map>')**

Example: **runfile('ps2_sandbox.py', args='2 maps/small_map.txt')**

Vscode (type in Terminal):

Command to run: **python3 ps2_sandbox.py 2 maps/<name of map>**

Example: **python3 ps2_sandbox.py 2 maps/small_map.txt**

Notes:

- Edges should be color coded according to the type of road, refer to the legend

Part 3:

Spyder (type in Console):

Command to run: **runfile('ps2_sandbox.py', args='3 maps/<name of map> <start node> <end node>')**

Example: **runfile('ps2_sandbox.py', args='3 maps/road_map.txt N0 N8')**

Vscode (type in Terminal):

Command to run: **python3 ps2_sandbox.py 3 maps/<name of map> <start_node> <end_node>**

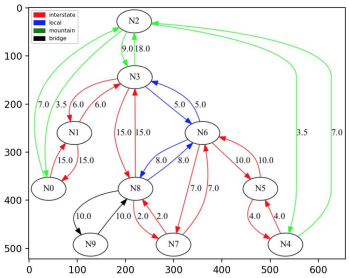
Example: **python3 ps2_sandbox.py 3 maps/road_map.txt N0 N8**

Notes:

- Start Node should be Green, End Node should be Red
- Your path will be in Orange, True path will be in Purple
- Any overlap will be in Orange (since it's colored last)
- If your path is correct you shouldn't see a purple path (since it'll overlap with the true path)

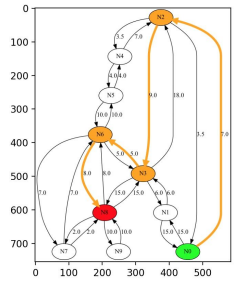
Examples:

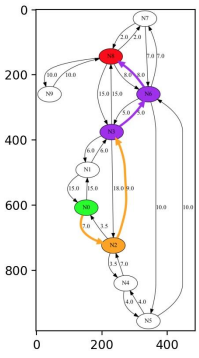
Part 2:



Part 3:

Good Path:



Slightly Wrong Path: 

(student path stops early)