# Instructions for Graphs App

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### 1 Euler circuits

- 1. Select or draw the graph you wish to work with.
- 2. Click on the button "Euler circuits".
- 3. Select the initial vertex, it should turn yellow.
- 4. Select the next vertex you wish to travel to.
- 5. When you have completed an Euler circuit a message will appear in the lower right-hand corner.

#### 2 Eulerizing Graphs

- 1. Select or draw the graph you wish to work with.
- 2. Click on the "Eulerize" button.
- 3. The lower right corner will indicate whether the current graph is Eulerized or not.
- 4. By selecting each vertex of a currently existing edge you can produce duplicate edges.
- 5. When the graph is Eulerized, it will be indicated in the lower right corner.
- 6. If you wish to now find an Euler circuit follow the instructions for Section 1.

# 3 Weighted Graphs

To find weighted Hamiltonian circuits:

- 1. Select the graph you wish to work with.
- 2. Click the "Weighted Graphs" button. This will give you a random set of weights.
- 3. Add edges to the path by selecting both vertices corresponding to the edge. The total weight will appear in the bottom right corner.

# 4 Saving Graphs

It is possible to save one graph per session. Note that the graph will not be there in the next session.

- 1. Draw the graph you would like to save.
- 2. Click the button "Store Graph".
- 3. That button will now read "Recall Graph". Click on that button again to redraw the graph you stored.

### 5 Bugs

Please report all bugs to me at boernej@westminster.edu.