

## **Graph Visualizer**

My Graph Visualizer visualizes a graph from a set of vertices and edges. At first load, it will generate a graph based on the default files found in the project folder named Vertex Data.txt and Edge Data.txt. You can also add vertices by name and edges by using the index of the vertices and the weight of the edge. The vertices in the canvas are draggable. The program can also calculate the shortest path between two vertices. It will change the colors of the edges in its search order to visualize the path. The cost of the shortest path will also be shown by a message box. Lastly, it has a “Clear Graph” and “Reload Default” function. The former will delete the graph from view while the latter will restore the default graph based on the default files in the project folder.

# Graph Visualizer

Graph Visualizer

## Add Edge

Data of edge to be added to the graph. The format is (int, int, float).  
From and To are the indices of the vertices.

## Add Vertex

Data of Vertex to add. The input will be the name of the vertex. It will be added to the plane with random coordinates.

Name of Vertex

Add Vertex

From,To,Weight

Add Edge

From

Vertex where the shortest path will start

To

Vertex where the shortest path will go to

Get Shortest Path

Clear Graph

Reload Default

## Shortest Path

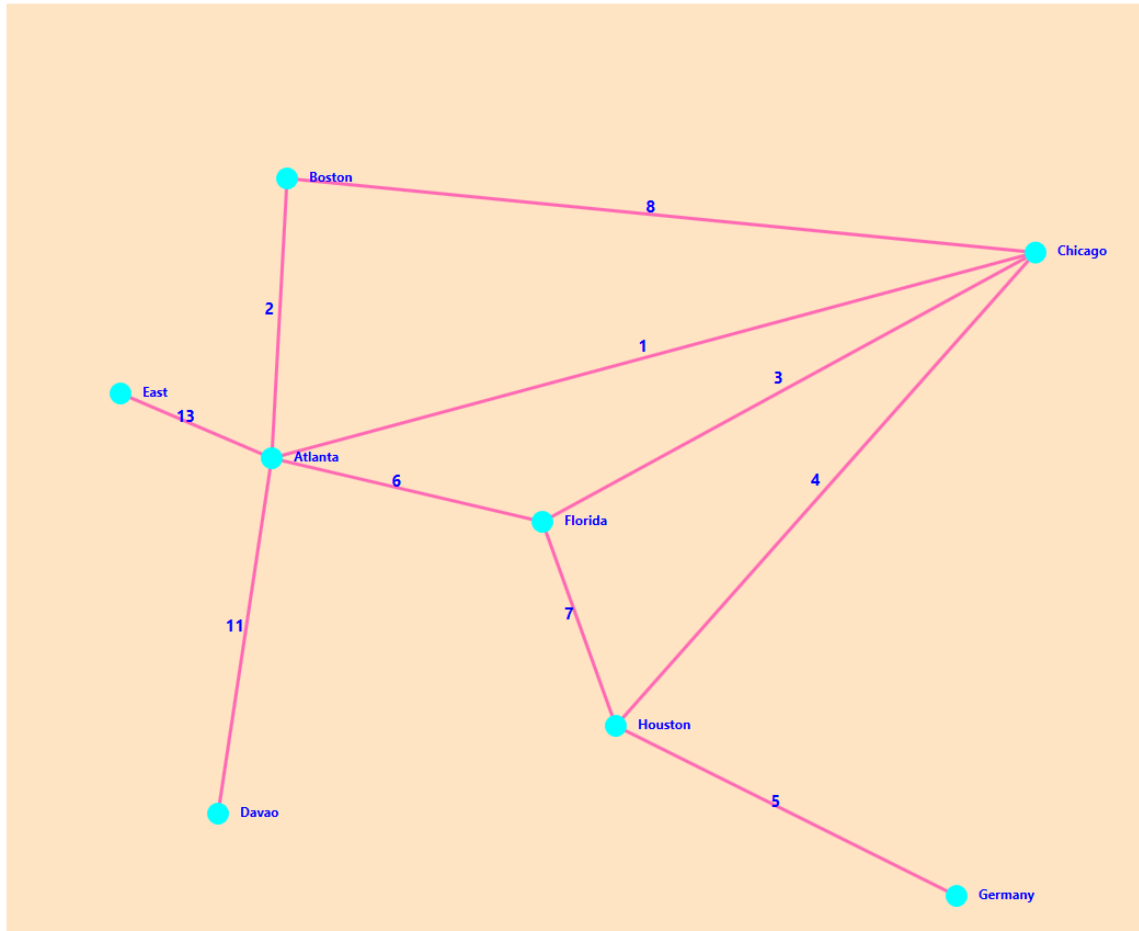
Shows the shortest path between two chosen vertices

## Clear Graph

Deletes all vertices and edges.

## Reload Default

Reload default vertices and edges from files in the folder.

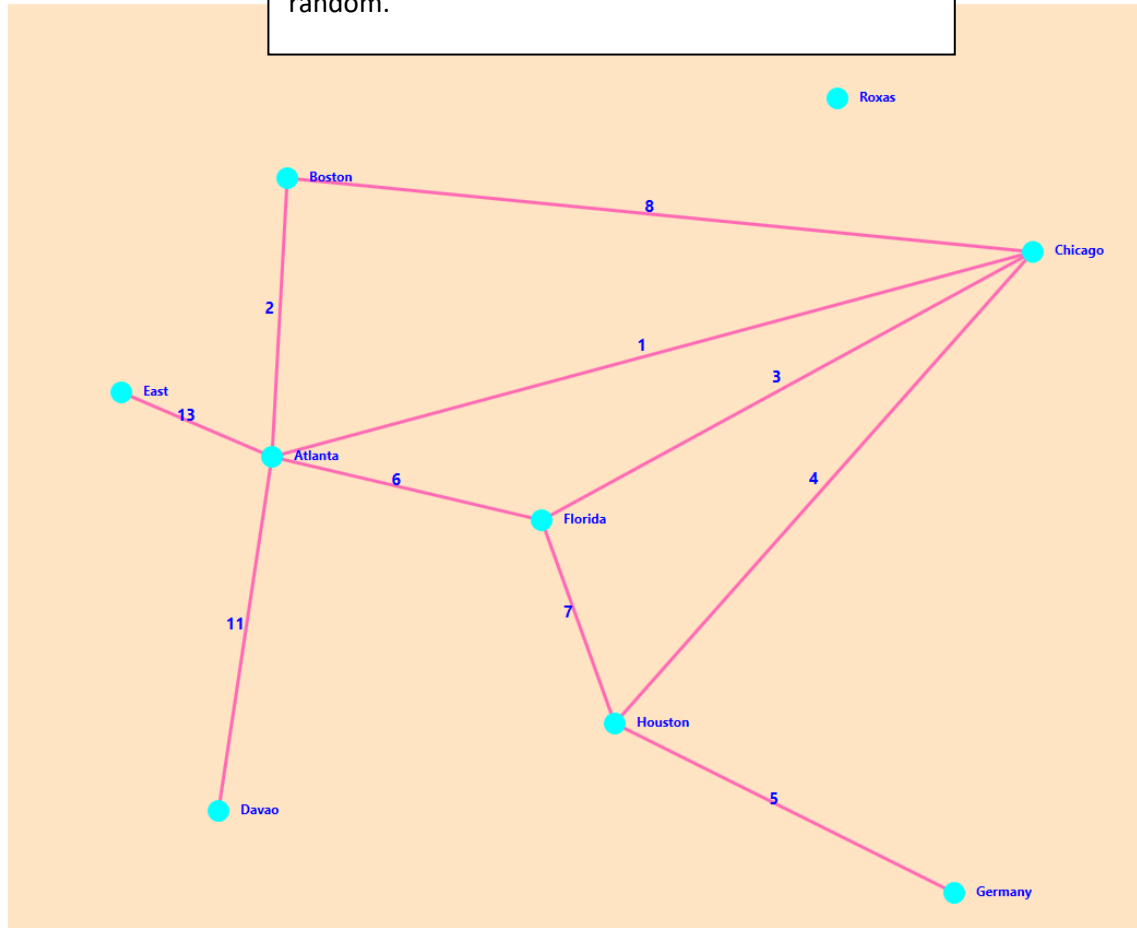


## Adding a Vertex

Graph Visualizer

### The Whole Plane

This is where you can see the various Vertices and Edges of the Graph. The vertices' positions are random.



Roxas

Add Vertex

From,To,Weight

Add Edge

From

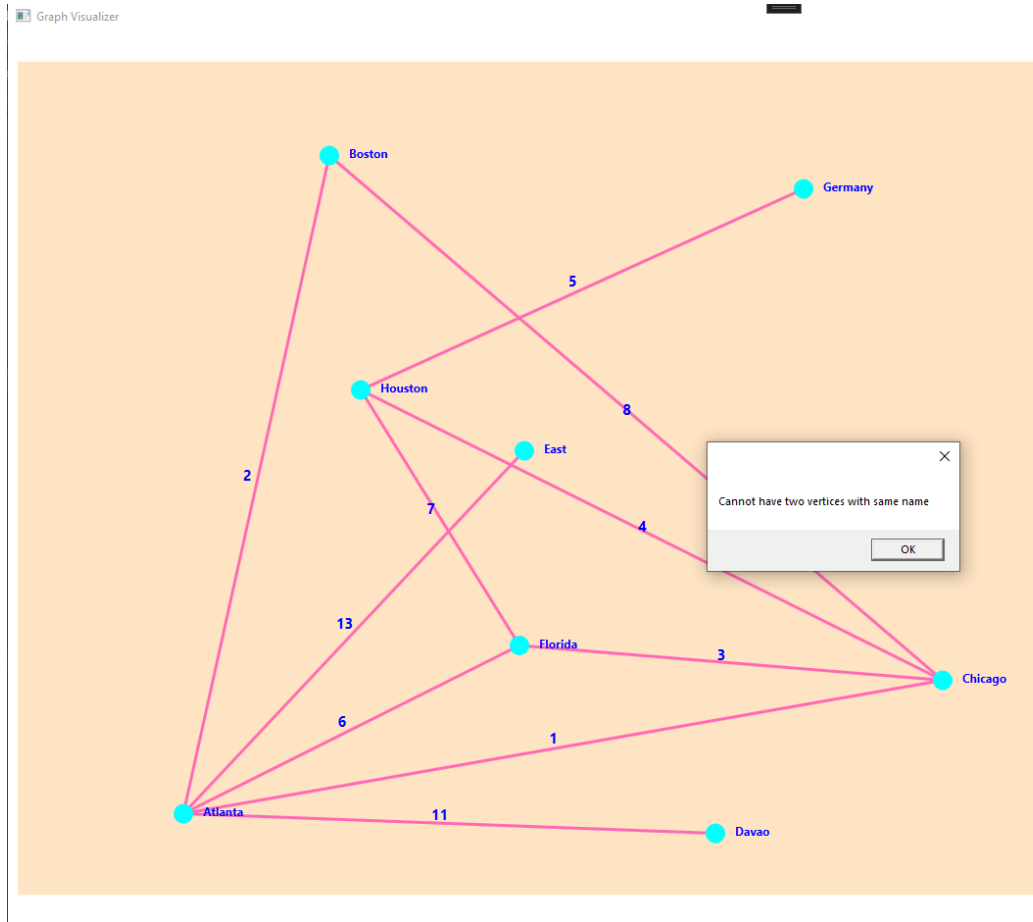
To

Get Shortest Path

Clear Graph

Reload Default

## Adding vertex that already exist



Boston

Add Vertex

From,To,Weight

Add Edge

From

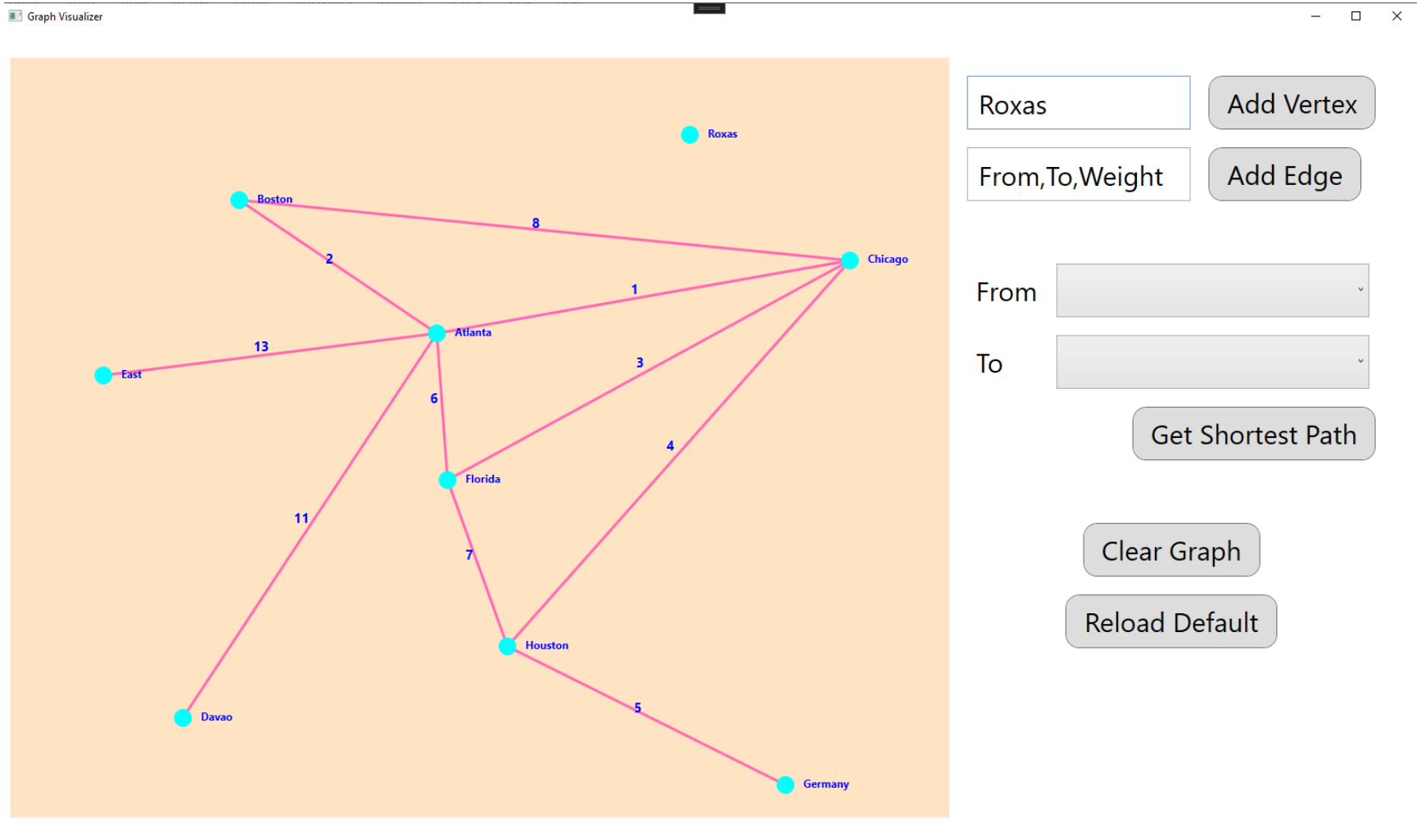
To

Get Shortest Path

Clear Graph

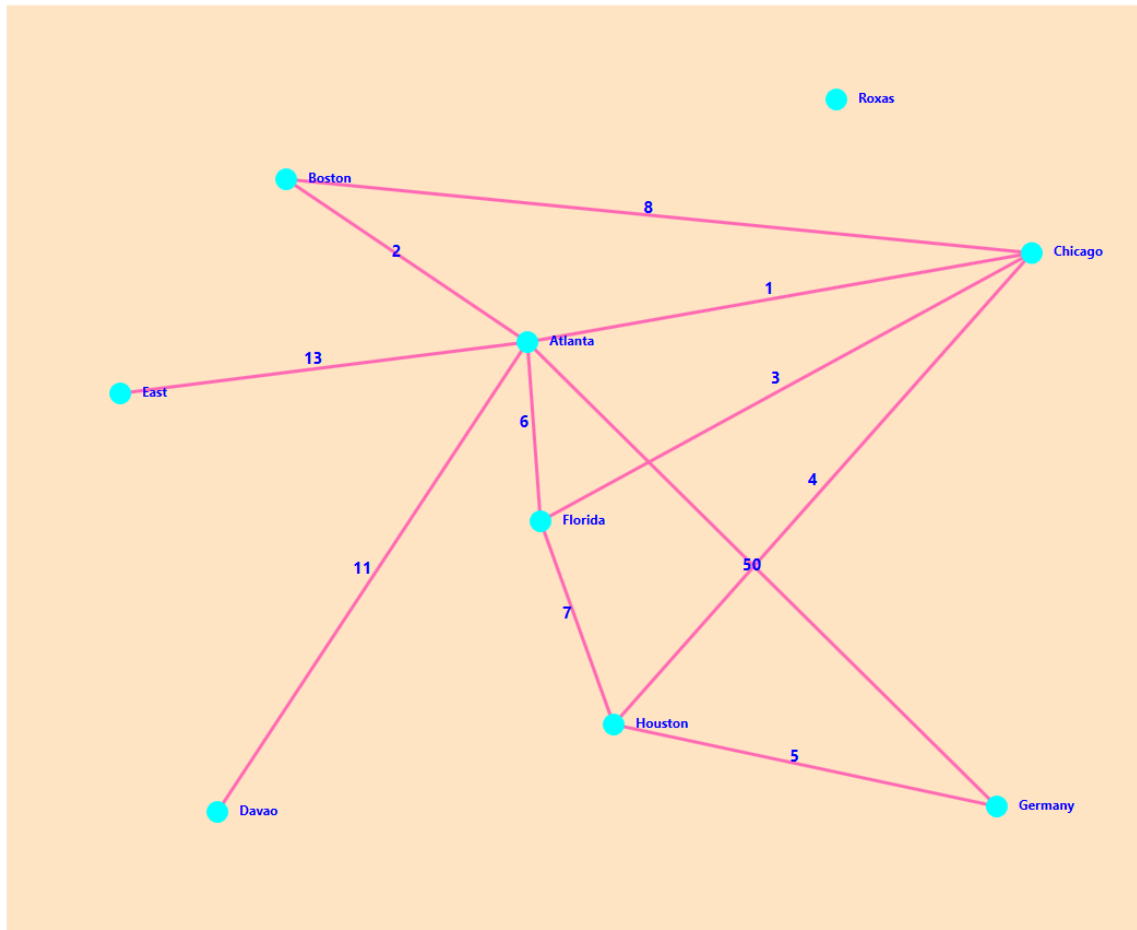
Reload Default

## Dragging



## Adding an Edge

Graph Visualizer



Roxas

Add Vertex

0,6,50

Add Edge

From

To

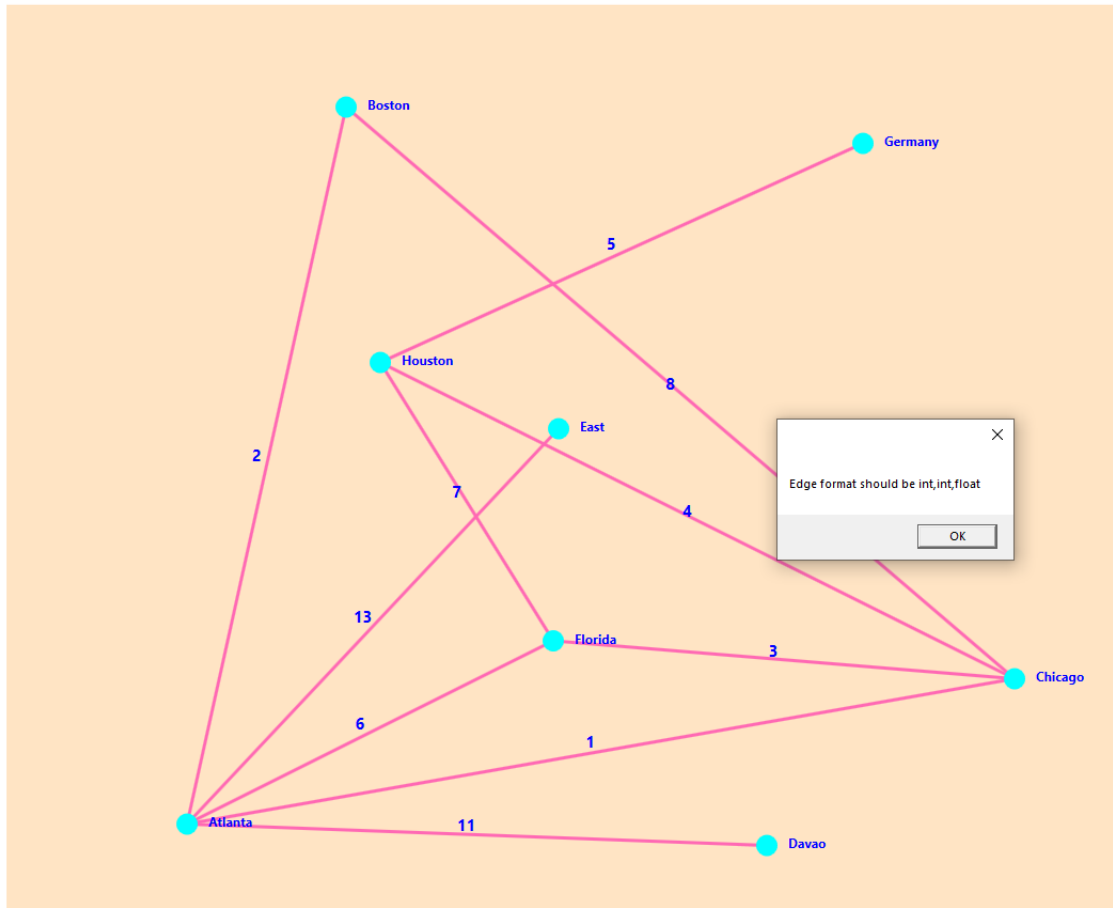
Get Shortest Path

Clear Graph

Reload Default

## Add Edge Errors

Graph Visualizer



Edge format should be int,int,float  
OK

Boston

Add Vertex

From,To,Weight

Add Edge

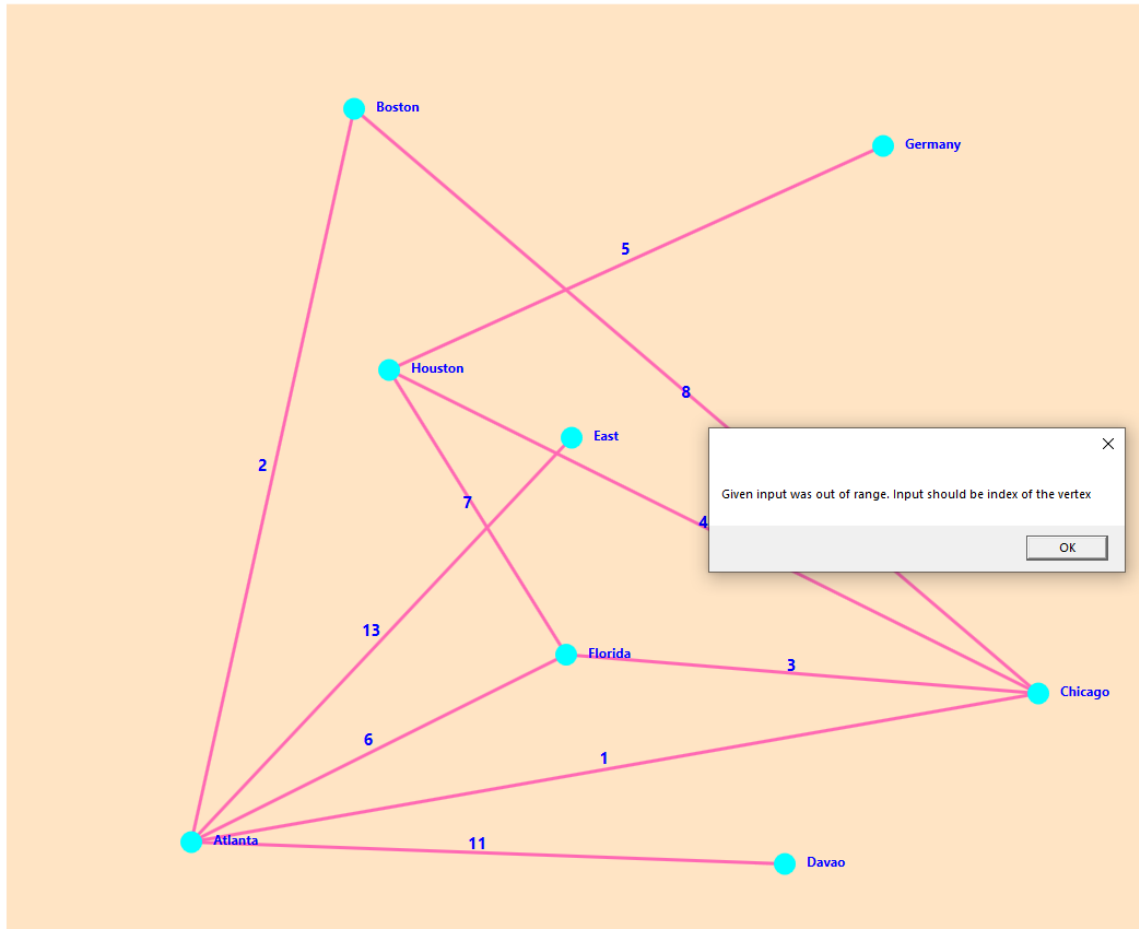
From

To

Get Shortest Path

Clear Graph

Reload Default



Given input was out of range. Input should be index of the vertex

OK

Add VertexAdd Edge

From

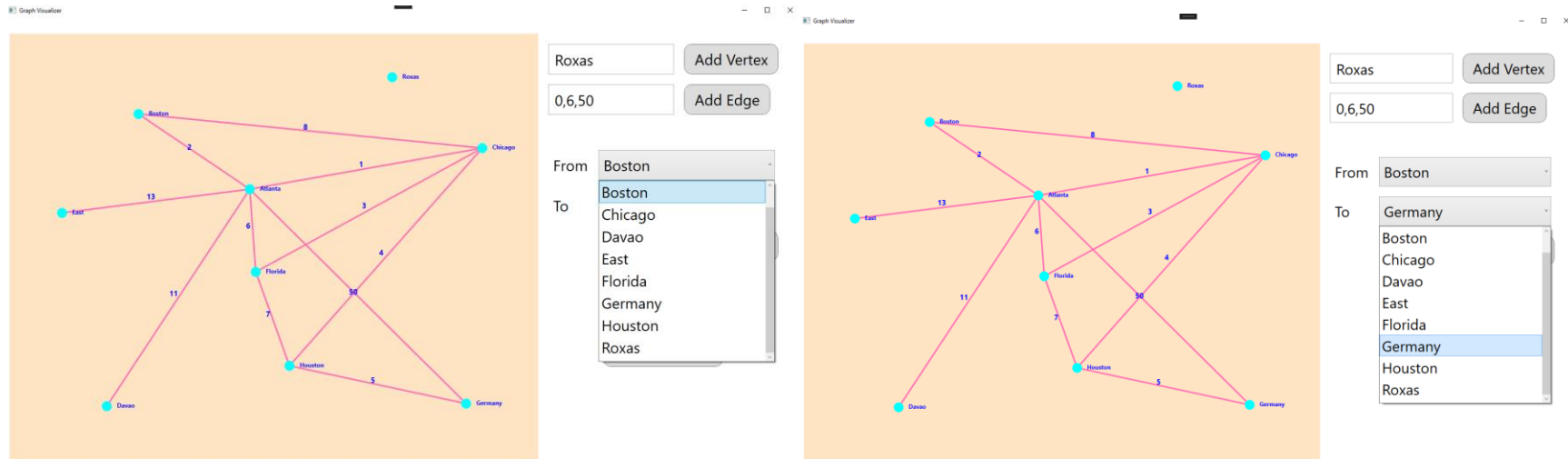
To

Get Shortest PathClear GraphReload Default

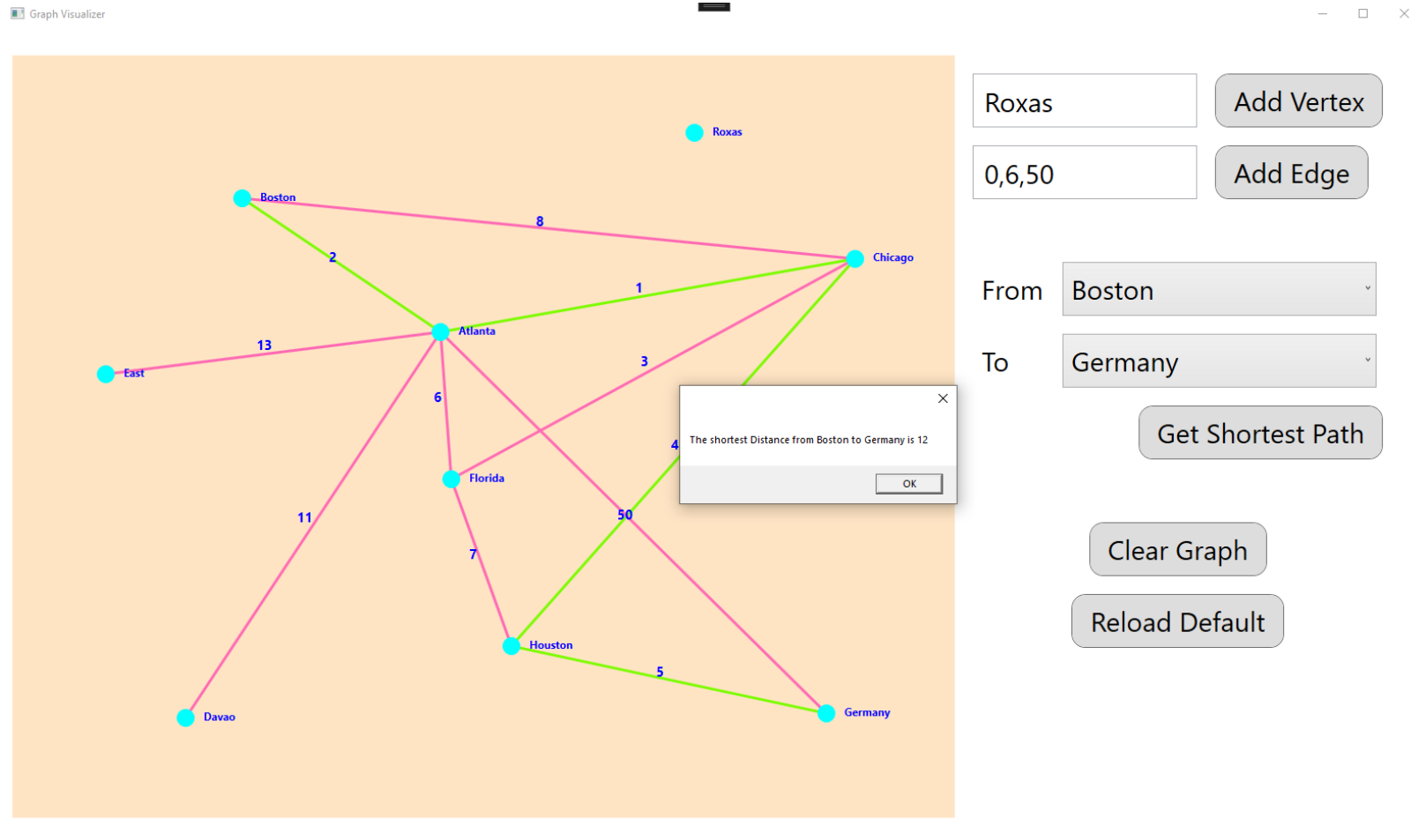


## Calculating Shortest Path

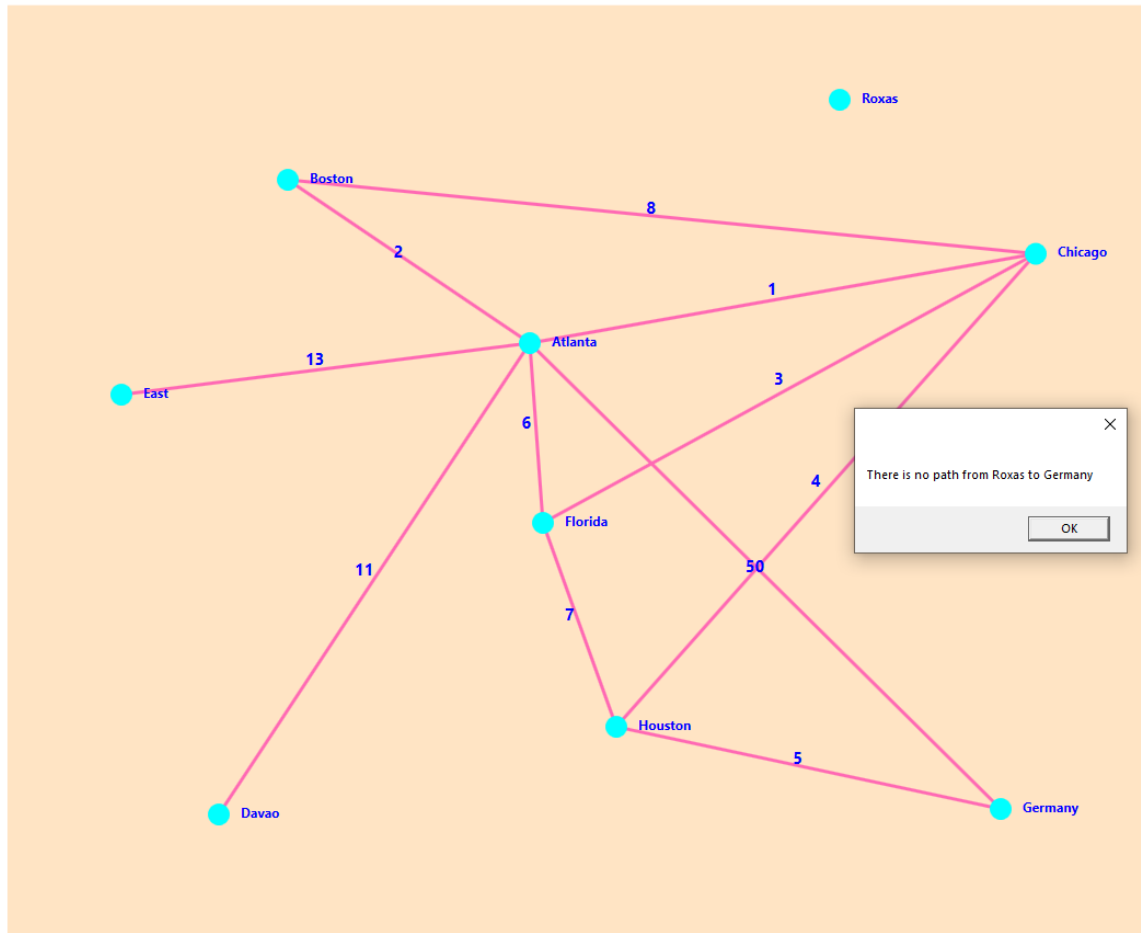
Choosing Vertices:



## Result Path



Shortest path between disconnected vertices



Roxas

Add Vertex

0,6,50

Add Edge

From Roxas

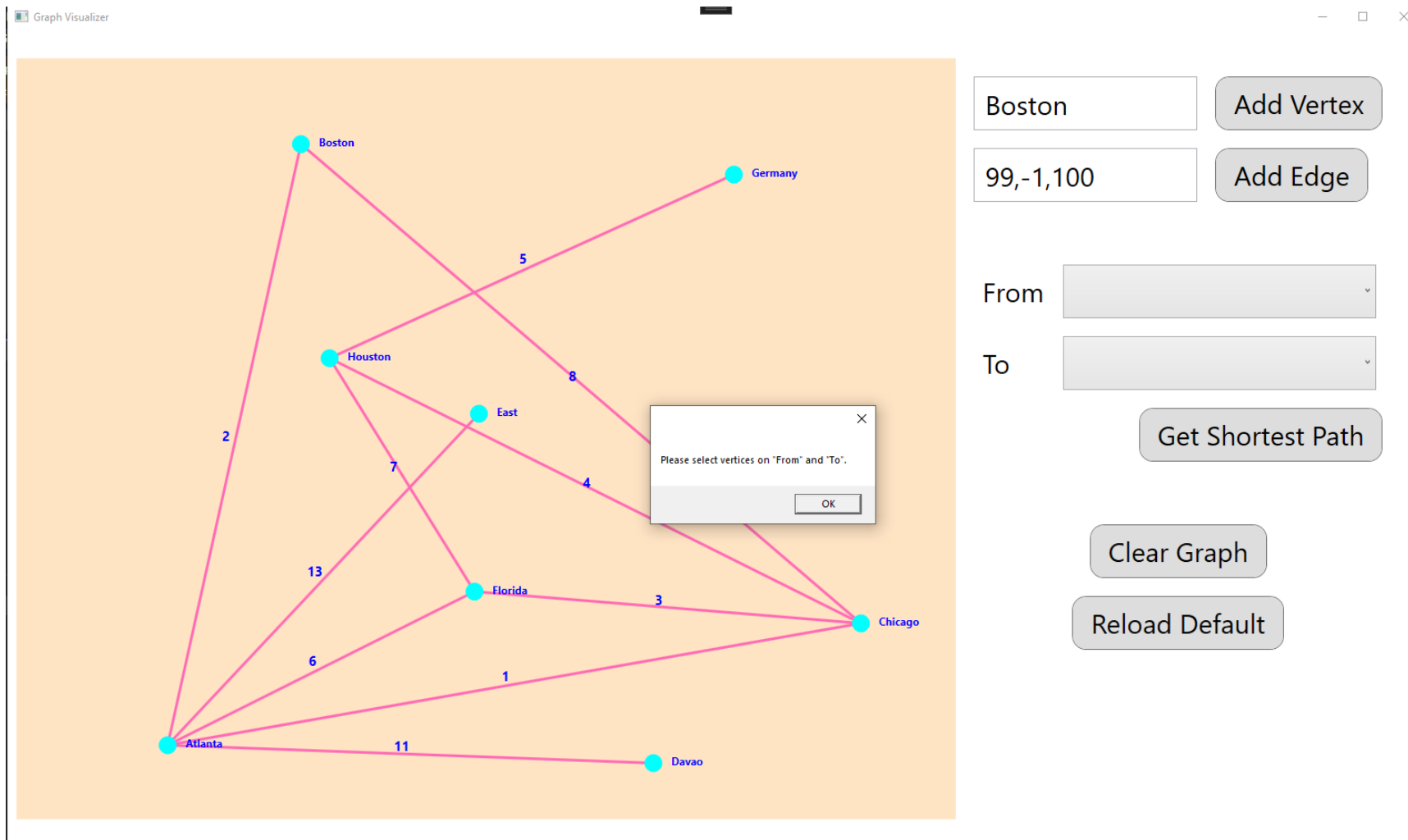
To Germany

Get Shortest Path

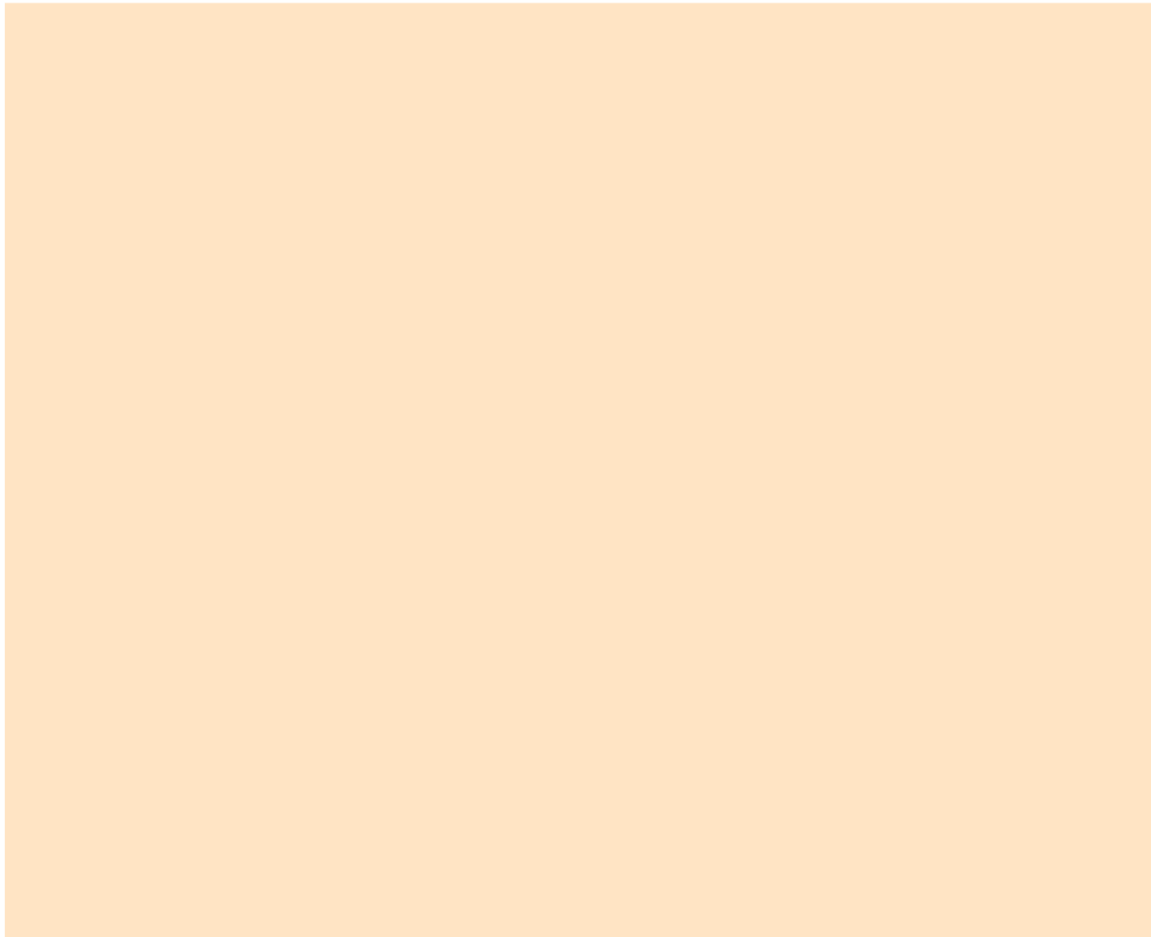
Clear Graph

Reload Default

**Shortest Path Error**



Clear Graph



Roxas

Add Vertex

0,6,50

Add Edge

From

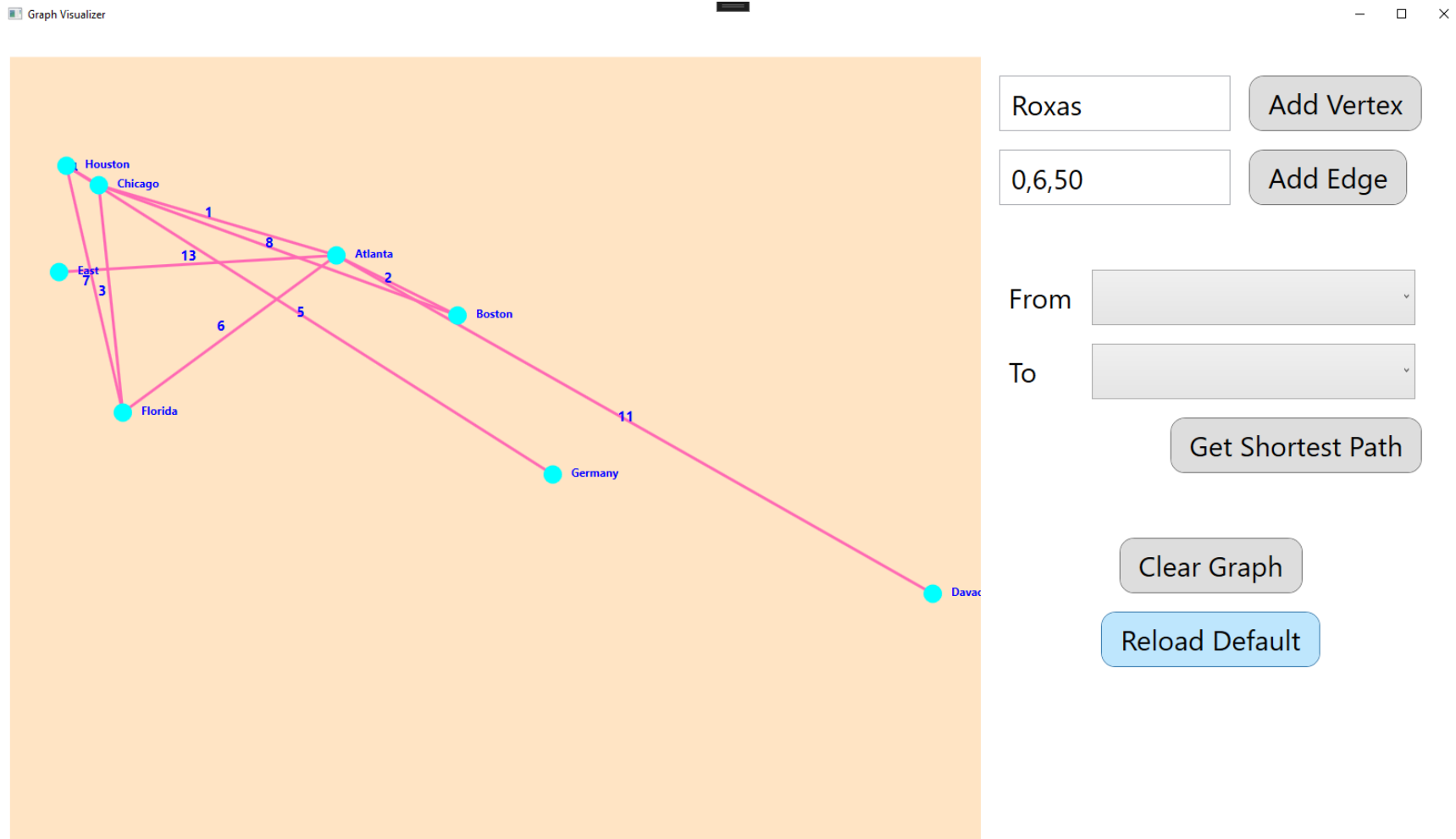
To

Get Shortest Path

Clear Graph









Reload Default

Reload Default



The vertices' positions are random

Default Files are found in the folder named as Vertex Data and Edge Data

 .vs	10/22/2022 3:26 PM	File folder	
 Graph Visualizer	11/3/2022 11:57 PM	File folder	
 Graphs	11/3/2022 10:36 AM	File folder	
 Edge Data	10/26/2022 12:33 PM	Text Document	1 KB
 Graph Visualizer.sln	10/23/2022 11:11 AM	Visual Studio Solu...	2 KB
 Graph Visualizer.sln.DotSettings	11/2/2022 1:05 PM	DOTSETTINGS File	1 KB
 Graph Visualizer.sln.DotSettings.user	10/25/2022 5:34 PM	Per-User Project O...	1 KB
 Vertex Data	11/3/2022 6:15 PM	Text Document	1 KB