CSC 2053  Undirected Graphs

1. Draw the graph represented in this file and its adjacency list representation:

   graph:  adjacency list representation:
   
   6
   8
   0 5
   2 4
   2 3
   1 2
   0 1
   3 4
   3 5
   0 2

2. Download Graph.java
   Run it with the above graph as input, check that the adjacency list representation matches what you wrote, above.

3. Create an input file corresponding to this graph:

   Run Graph.java with the above graph as input, check the adjacency list representation to verify that you got all the edges.

4. Create an input file corresponding to this graph:

   Run Graph.java with the above graph as input. Check the adjacency list representation to verify that you got all the edges.
5. **Download** GraphClient.java
Add another method that determines whether a graph has an Euler circuit.
**Note:** You do NOT need to find the circuit, just determine whether the graph has one.

6. **Download** SymbolGraph.java
Run it with routes.txt and movies.txt as input.

7. **Create an input file corresponding to this graph:**

```
Run Graph.java with the above graph as input, check the adjacency list representation to verify that you got all the edges.
```

8. **Add a toString() method to SymbolGraph.java that outputs the graph using symbols instead of numbers**

This is similar to the toString() method in Graph.java (but you need to replace the numbers by the corresponding strings). Modify the unit test to also print the graph, and make sure it prints the information correctly. It should look like this:

```
> java SymbolGraph routes.txt " "
```
Done reading routes.txt
10 vertices, 18 edges
JFK: ORD ATL MCO
MCO: HOU ATL JFK
ORD: ATL JFK PHX DFW HOU DEN
DEN: LAS PHX ORD
HOU: MCO DFW ATL ORD
DFW: HOU ORD PHX
PHX: LAS LAX DEN ORD DFW
ATL: MCO ORD HOU JFK
LAX: LAS PHX
LAS: PHX LAX DEN

9. Create a client BiggestAirport.java
Use SymbolGraph to find the airport with the largest number of connections in routes.txt

10. Create a SymbolGraphClient.java
It should have the same functionality (including the Euler circuit method), but uses instead symbol graphs.
Try it with routes.txt and movies.txt as input.