CS608 Programming Assignment 12

Basic Graph Algorithms – MST – Prim's and Kruskal's algorithms

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You know the grading policy.

Programming Assignment 12A: implement constructing an MST using Prim's algorithm

The file, **inputData12A.txt** contains adjacency matrix data for a graph with 15 nodes (call the nodes A – O). Write a Java program to read this file, and the MST obtained in using Prim's algorithm.

Output to contain the list of edges (AB, CD,...) and the sum of the edges.

Programming Assignment 12B:

The file, **inputData12B.txt** contains adjacency matrix data for a graph with 15 nodes (call the nodes A – O). Write a Java program to read this file, and create an array (of size 15) of degrees of each vertex in the graph.
Now verify if:

1. the graph satisfies the Euler path condition (Euler's theorem – first part)
2. the graph satisfies the Euler circuit condition (Euler's theorem – second part)
3. the graph satisfies Dirac Theorem
4. the graph satisfies Ore's Theorem

The output must not only contain the answers to these four questions, but must contain an explanation why?
