**ASSIGNMENT 12 – MinimumSpanningTree**

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| Topics |
| * Minimum Spanning Tree |
| Readings |
| * CLRS, Chapter 23, lectures from Blackboard |
| Instructions | |
| 1. Do the problems and answer the questions listed in the next section   * Keep in mind Guidelines on plagiarism.   2. Follow instructions for submitting your work. | |

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| Problems and Questions |
| Part A Prim’s Algorithm (15 pts) |
| Show steps of Prim’s algorithm for the following graph:  *3*  *55*  *4*  *4*  *7*  *2*  *5*  *1*  *6*  *3*  *3*  *4*  *2*  Select vertex 3 as the root. |
| Part B Kruskal’s Algorithm (15 pts) |
| Show steps for the Kruskal’s algorithm using the same graph as in part A. |
| Part C. Implementation (70 pts). |
| Implement Prim’s algorithm as a Java method and test it.  See instructions in the file Instructions.txt  Test your implementation by reading the file with weight lists, creating a graph, and then outputting edges of the minimum spanning tree. |

2. **Summary questions:**

a. What concepts did you have trouble with? What still confuses you?

b. Suggestions for improving this assignment in the future?

Help instructor help you

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| Submitting your work |

1. Make sure that your name(s) are in all your files.
2. If you have more than one file for your solution, make a .zip file for your project
3. In Blackboard, attach your solution file to the submission for this assignment.

GUIDELINES ON

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| Guidelines on Plagiarism in Computer Science |

Outlined in the Syllabus