

11. Graphs

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Agenda

Instruction

Minimum Spanning Tree

Optional Problem

Instruction

Make a zip file named “studentid” that includes one folder and source codes.

Make sure your codes can be properly compiled.

Do not submit whole solution file.

Minimum Spanning Tree

Choose 1 algorithm to solve.

Minimum spanning tree

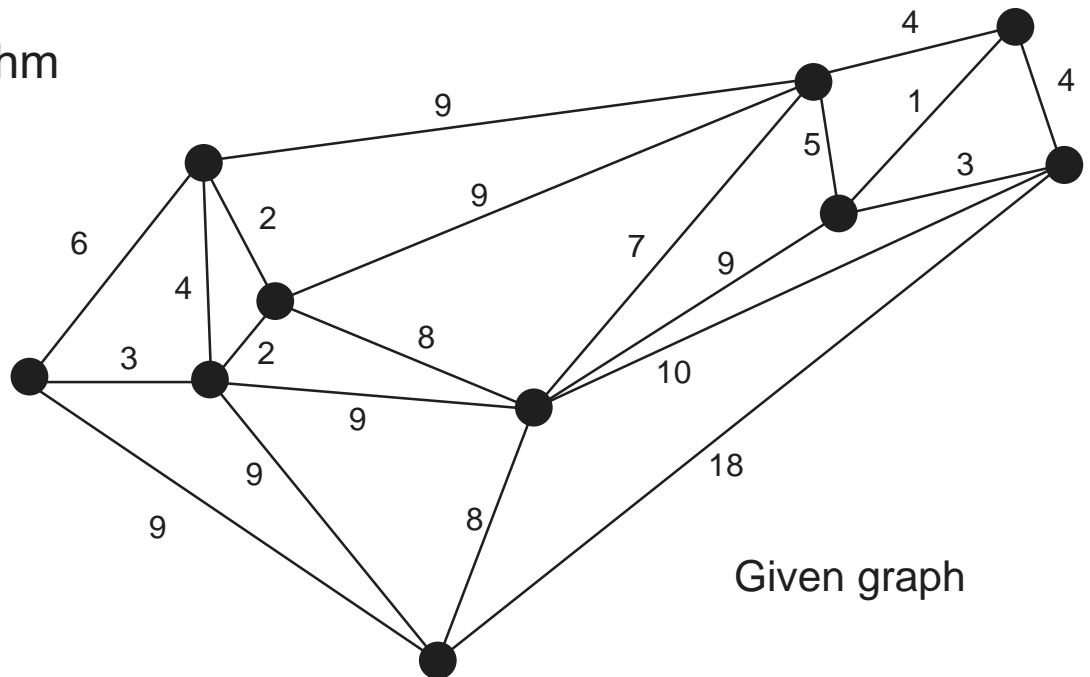
Implement a function which creates a minimum spanning tree.

Graph is no direction(undirected) and has weights.

Use matrix to represent your graph.

Algorithms:

1. Kruskal's algorithm
2. Prim's algorithm



Optional Problem

Homework of this slide is optional (not mandatory).

1. Implement undirected and weighted graph ADT using adjacency list representation.

graphCreate – create a graph

graphDestroy – destroy all vertices, arcs, and graph

graphInsertVertex – insert a vertex into a graph

graphInsertArc – insert an arc into a graph

graphRemoveVertex – remove a vertex if it has no arc

graphRemoveArc – remove an arc

2. Implement a function which creates a minimum spanning tree with graph ADT.