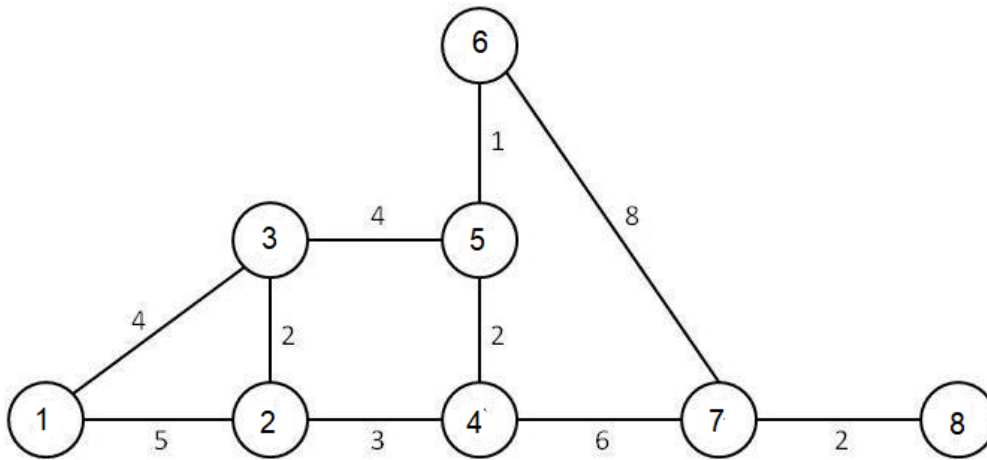


My submission

Instructions for submission ▼

Develop an implementation of Prim's algorithms that determines the MST (Minimum Spanning Tree) of the graph from the Unit 2 assignment that we developed the data structure for.



For this assignment, develop an implementation using Java in the Cloud9 environment (or your own Java IDE) that first implements the graph in a data structure and then provides the algorithm that can determine the Minimum spanning tree within this graph in terms of cost. The cost will be the sum of the lengths of the edges that must be traversed. The cost of each edge is represented by the number on the edge. For example, the cost of edge 1,3 is 4 and the cost of edge 6,7 is 8. Your algorithm must output the total cost of spanning the tree as determined by your implementation of Prim's algorithm. The algorithm must produce output which is the total cost of the path.

Assessment

You will have ONE WEEK to complete this assignment. It will be due at the end of this unit. Your assignment will be assessed (graded) by your peers. You should post this assignment, the results, and other requirements such as the asymptotic analysis in one of the following formats:

- Directly cut-and-pasted into the text box for the posting.
- As a document in either RTF or Word 97/2003 format.

Mark each rubric item using the scale provided. Some scales will be simple yes/no responses. Others will be a scale of 1-4 where 4 indicates that all of the elements of the rubric item are present and 1 indicates that NONE of the elements were present. For example in the rubric item "Was a java implementation of a minimum spanning tree provided", then if no code was submitted at all then this item should be 1. If an algorithm was posted (not necessarily working as that would be another rubric item) that attempts to implement a minimum spanning tree traversal, then this item should be 4.

Rubric Items

Was a java implementation of a minimum spanning tree algorithm provided? (Yes/No)

Is the code documented to give the reader an idea of what the author is trying to do within the code? (Scale of 1-4 where 1 is no comments and 4 is comprehensive comments)

Does the java algorithm execute in the Java IDE environment (yes/no)

When executed does the algorithm produce output indicating the total cost of spanning the tree? (yes/no)

Does the cost reported by the algorithm match the cost provided by the instructor? (yes/no)

Does the assignment include an asymptotic analysis describing the complexity of the algorithm in terms of Big-O (Big-Θ, or Big-Ω as appropriate)? (Yes/No)

-  [Ass-4\(Algo\).docx](#)

Assessment

Grade: 86 of 90

Assessment form ▼

Aspect 1

Was a java implementation of a minimum spanning tree algorithm provided? (Yes/No)

Grade for Aspect 1

Yes

Comment for Aspect 1

The implementation provided is for Prim's algorithm, which is a commonly used method to find the Minimum Spanning Tree (MST) of a graph.

Aspect 2

Is the code documented to give the reader an idea of what the author is trying to do within the code? (Scale of 1-5 where 1 is no comments and 5 is comprehensive comments)

Grade for Aspect 2

Comment for Aspect 2

The code has basic comments explaining the purpose of certain methods and parts of the algorithm. However, more detailed comments, particularly explaining the steps within the algorithm and the purpose of the various variables, would make it easier to understand.

Aspect 3

Does the java algorithm execute in the Java IDE environment (yes/no)

Grade for Aspect 3

Yes

Comment for Aspect 3

The code provided appears to be correctly formatted and should execute without issues in a Java IDE, assuming there are no external dependencies or syntax errors.

Aspect 4

When executed does the algorithm produce output indicating the total cost of spanning the tree? (yes/no)

Grade for Aspect 4

Correct

Comment for Aspect 4

The algorithm correctly outputs the edges included in the MST along with their weights, and the total cost of the spanning tree.

Aspect 5

Does the cost reported by the algorithm match the cost provided by the instructor? (yes/no)

Grade for Aspect 5

Correct

Comment for Aspect 5

The actual cost reported by the algorithm was not compared to a provided cost in the question because the specific cost expected by our instructor is not mentioned in the provided context in the question.

Aspect 6

Does the assignment include an asymptotic analysis describing the complexity of the algorithm in terms of Big-O (Big- Θ , or Big- Ω as appropriate)? (Yes/No)

Grade for Aspect 6

Correct

Comment for Aspect 6

The asymptotic analysis is included, providing both time and space complexity for Prim's algorithm.

Overall feedback ▼

Overall, the provided Java implementation of Prim's algorithm is correct and includes the required functionality to find and output the Minimum Spanning Tree along with its total cost. The code is mostly documented, but additional comments could improve clarity. The code is expected to run in a Java IDE, and it includes a reasonable asymptotic analysis.

Assessment

Grade: 90 of 90

Assessment form ▼

Aspect 1

Was a java implementation of a minimum spanning tree algorithm provided? (Yes/No)

Grade for Aspect 1

Yes

Comment for Aspect 1

Good

Aspect 2

Is the code documented to give the reader an idea of what the author is trying to do within the code? (Scale of 1-5 where 1 is no comments and 5 is comprehensive comments)

Grade for Aspect 2

***** Excellent

Comment for Aspect 2

Good

Aspect 3

Does the java algorithm execute in the Java IDE environment (yes/no)

Grade for Aspect 3

Yes

Comment for Aspect 3

Good

Aspect 4

When executed does the algorithm produce output indicating the total cost of spanning the tree? (yes/no)

Grade for Aspect 4

Correct

Comment for Aspect 4

Good

Aspect 5

Does the cost reported by the algorithm match the cost provided by the instructor? (yes/no)

Grade for Aspect 5

Correct

Comment for Aspect 5

Good

Aspect 6

Does the assignment include an asymptotic analysis describing the complexity of the algorithm in terms of Big-O (Big- Θ , or Big- Ω as appropriate)? (Yes/No)

Grade for Aspect 6

Correct

Comment for Aspect 6

Good

Overall feedback ▼

Good work. Keep up the great work.

Assessment

Grade: 90 of 90

Assessment form ▼

Aspect 1

Was a java implementation of a minimum spanning tree algorithm provided? (Yes/No)

Grade for Aspect 1

Yes

Comment for Aspect 1

yes java implementation of a minimum spanning tree algorithm provided

Aspect 2

Is the code documented to give the reader an idea of what the author is trying to do within the code? (Scale of 1-5 where 1 is no comments and 5 is comprehensive comments)

Grade for Aspect 2

***** Excellent

Comment for Aspect 2

yes

Aspect 3

Does the java algorithm execute in the Java IDE environment (yes/no)

Grade for Aspect 3

Yes

Comment for Aspect 3

yes java algorithm execute in the Java IDE environment

Aspect 4

When executed does the algorithm produce output indicating the total cost of spanning the tree? (yes/no)

Grade for Aspect 4

Correct

Comment for Aspect 4

yes

Aspect 5

Does the cost reported by the algorithm match the cost provided by the instructor? (yes/no)

Grade for Aspect 5

Correct

Comment for Aspect 5

yes

Aspect 6

Does the assignment include an asymptotic analysis describing the complexity of the algorithm in terms of Big-O (Big- Θ , or Big- Ω as appropriate)? (Yes/No)

Grade for Aspect 6

Correct

Comment for Aspect 6

yes

Overall feedback ▼

Good work