

Class Graph

java.lang.Object
Graph

public class **Graph**
extends **Object**

Constructor Summary

Constructors

Constructor	Description
Graph()	
Graph(String filename)	Reads a graph from the file with the given filename

Method Summary

All Methods Instance Methods Concrete Methods

Modifier and Type	Method	Description
void	addEdge(String sourceLabel, String targetLabel, double weight)	Adds an edge with the given weight from the vertex with the given source label to the given target
List <Edge>	getAdjacent (Vertex source)	Returns a list of the edges that have the given vertex as their source
List <Edge>	getEdges()	Returns a list of all edges of the graph
String []	getLabels()	Returns an array of labels of the vertices in the graph
double[][]	getMatrix()	Returns the adjacency matrix of the graph
Vertex	getVertex(String label)	Returns a Vertex object for the given label and its index

Collection <Vertex> **getVertices()**

Returns a set of the vertices in the graph

Graph **printMST()**

Returns string representation of the summary of the graph

Methods inherited from class java.lang.Object

`equals` , `getClass` , `hashCode` , `notify` , `notifyAll` , `toString` , `wait` , `wait` , `wait`

Constructor Details

Graph

```
public Graph()
```

Graph

```
public Graph(String filename)
           throws FileNotFoundException
```

Reads a graph from the file with the given filename

Parameters:

filename -- file to be read from

Throws:

`FileNotFoundException`

Method Details

addEdge

```
public void addEdge(String sourceLabel,
                    String targetLabel,
                    double weight)
```

Adds an edge with the given weight from the vertex with the given source label to the given target

Parameters:

sourceLabel -- the label of the source vertex

targetLabel -- the label of the target vertex

weight -- weight of the source vertex to be added to

getAdjacent

```
public List <Edge> getAdjacent(Vertex source)
```

Returns a list of the edges that have the given vertex as their source

Parameters:

source -- the source where the edges are from

Returns:

a list of the edges that have the given vertex as their source

getVertices

```
public Collection <Vertex> getVertices()
```

Returns a set of the vertices in the graph

Returns:

a set of the vertices in the graph

printMST

```
public Graph printMST()
```

Returns string representation of the summary of the graph

Returns:

string representation of the summary of the graph

getEdges

```
public List <Edge> getEdges()
```

Returns a list of all edges of the graph

Returns:

a list of all edges of the graph

getVertex

```
public Vertex getVertex(String label)
```

Returns a Vertex object for the given label and its index

Parameters:

label - - the given label to get vertex

Returns:

a vertex object for the given label and its index

getLabels

```
public String [] getLabels()
```

Returns an array of labels of the vertices in the graph

Returns:

an array of labels of the vertices in the graph

getMatrix

```
public double [][] getMatrix()
```

Returns the adjacency matrix of the graph

Returns:

the adjacency matrix of the graph.