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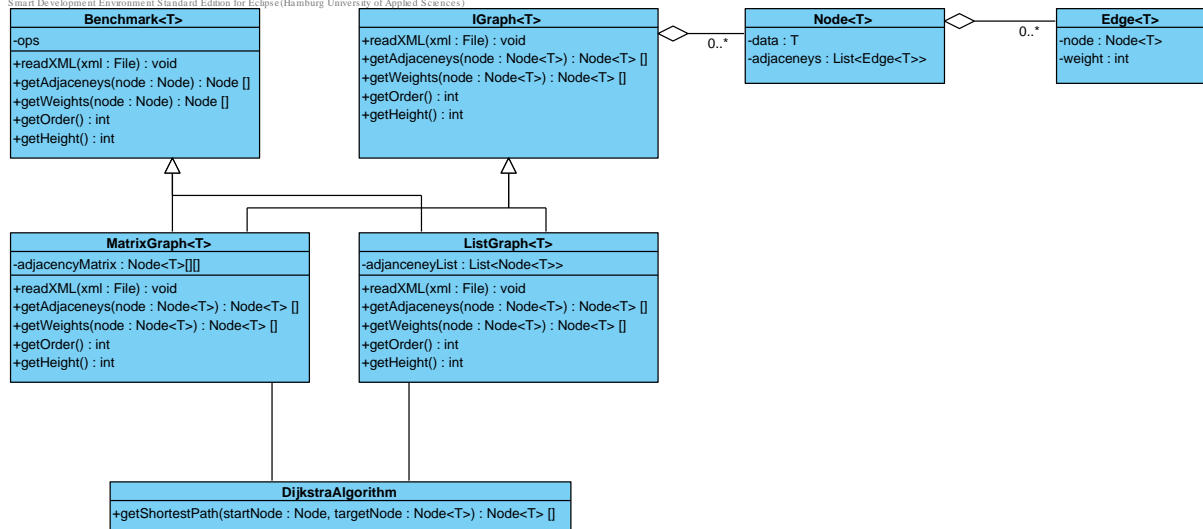
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## Class Diagram








# a08.Graph

Smart Development Environment - Standard Edition for Eclipse (Hamburg University of Applied Sciences)



Name	Value
Author	Administrator
Create Date Time	26.05.2011 18:55:58
Last Modified	26.05.2011 20:29:03
Name	a08.Graph

## Summary

Name	Documentation
 <a href="#">Benchmark&lt;T&gt;</a>	
 <a href="#">IGraph&lt;T&gt;</a>	
 <a href="#">Node&lt;T&gt;</a>	
 <a href="#">Edge&lt;T&gt;</a>	
 <a href="#">MatrixGraph&lt;T&gt;</a>	
 <a href="#">ListGraph&lt;T&gt;</a>	
 <a href="#">DijkstraAlgorithm</a>	

## Details

## Benchmark<T>

Name	Value
Active	false
Business Model	false
Visibility	public
Leaf	false
Root	false
Author	Administrator
Create Date Time	26.05.2011 19:21:46
Last Modified	26.05.2011 20:01:53

## Attributes

private ops			
Author	Administrator		
Create Date Time	26.05.2011 19:23:35		
Last Modified	26.05.2011 19:29:51		
Getter	false	Setter	false
Has Setter	false		
Has Getter	false		
Derived	false		
Multiplicity	Unspecified		
Aggregation	None		

## Operations

public readXML (xml : File) : void		
Parameters	xml	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 19:27:43
	Last Modified	26.05.2011 19:29:51
	Type	File
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 19:27:39	
Last Modified	26.05.2011 19:29:51	
Ordered	false	
Unique	true	
Query	false	


public getAdjaceneys (node : Node) : Node		
Parameters	node	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 19:27:50
	Last Modified	26.05.2011 19:29:51
	Type	Node
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 19:27:47	
Last Modified	26.05.2011 19:29:51	
Type Modifier	[]	
Ordered	false	
Unique	true	
Query	false	


public getWeights (node : Node) : Node		
Parameters	node	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 19:28:11
	Last Modified	26.05.2011 19:29:51
	Type	Node
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 19:28:07	
Last Modified	26.05.2011 19:29:51	
Type Modifier	[]	
Ordered	false	
Unique	true	
Query	false	

public getOrder () : int	
Static	false
Leaf	false
Author	Administrator
Create Date Time	26.05.2011 19:28:24
Last Modified	26.05.2011 19:29:51
Ordered	false
Unique	true
Query	false

public getHeight () : int	
Static	false
Leaf	false
Author	Administrator
Create Date Time	26.05.2011 19:28:32
Last Modified	26.05.2011 19:29:51
Ordered	false
Unique	true
Query	false

## Relationships

Unnamed Generalization	
To	 <a href="#">MatrixGraph&lt;T&gt;</a>
Author	Administrator
Create Date Time	26.05.2011 19:46:23
Last Modified	26.05.2011 19:47:09
Substitutable	false
Visibility	Unspecified

Unnamed Generalization	
To	 <a href="#">ListGraph&lt;T&gt;</a>
Author	Administrator
Create Date Time	26.05.2011 19:46:27
Last Modified	26.05.2011 19:47:09
Substitutable	false
Visibility	Unspecified

## IGraph<T>

Name	Value
Active	false
Business Model	false
Visibility	public
Leaf	false
Root	false
Author	Administrator
Create Date Time	26.05.2011 18:56:55
Last Modified	26.05.2011 19:47:09

## Operations

public readXML (xml : File) : void		
Parameters	xml	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 18:57:49
	Last Modified	26.05.2011 19:29:51
	Type	File
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 18:57:16	
Last Modified	26.05.2011 19:29:51	
Ordered	false	
Unique	true	
Query	false	




public getAdjaceneys (node : Node) : Node		
Parameters	node	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 18:58:25
	Last Modified	26.05.2011 19:47:09
	Template Type Bind Info	N/A
	Type	Node
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 18:57:49	
Last Modified	26.05.2011 19:47:09	
Template Type Bind Info	N/A	
Type Modifier	[]	
Ordered	false	
Unique	true	
Query	false	


public getWeights (node : Node) : Node		
Parameters	node	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 18:58:46
	Last Modified	26.05.2011 19:47:09
	Template Type Bind Info	N/A
	Type	Node
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 18:58:25	
Last Modified	26.05.2011 19:47:09	
Template Type Bind Info	N/A	
Type Modifier	[]	
Ordered	false	
Unique	true	
Query	false	


public getOrder () : int	
Static	false
Leaf	false
Author	Administrator
Create Date Time	26.05.2011 18:58:46
Last Modified	26.05.2011 19:29:51
Ordered	false
Unique	true
Query	false

public getHeight () : int	
Static	false
Leaf	false
Author	Administrator
Create Date Time	26.05.2011 18:58:54
Last Modified	26.05.2011 19:29:51
Ordered	false
Unique	true
Query	false

# Relationships

Unnamed Association		
To	Name	Value
	End Model Element	 Node<T>
	Author	Administrator
	Create Date Time	26.05.2011 19:01:39
	Last Modified	26.05.2011 19:05:16
	Provide Property Getter Method	false
	Provide Property Setter Method	false
	Multiplicity	0..*
	Visibility	Unspecified
	Aggregation Kind	None
	Navigable	true
	Derived	false
Abstract	false	
Leaf	false	
Visibility	Unspecified	
Author	Administrator	
Create Date Time	26.05.2011 19:01:39	
Last Modified	26.05.2011 19:05:16	
Derived	false	

Unnamed Generalization	
To	 ListGraph<T>
Author	Administrator
Create Date Time	26.05.2011 19:03:17
Last Modified	26.05.2011 19:05:16
Substitutable	false
Visibility	Unspecified

Unnamed Generalization	
To	 MatrixGraph<T>
Author	Administrator
Create Date Time	26.05.2011 19:03:11
Last Modified	26.05.2011 19:47:09
Substitutable	false
Visibility	Unspecified

## Node<T>


Name	Value
Active	false
Business Model	false
Visibility	public
Leaf	false
Root	false
Author	Administrator
Create Date Time	26.05.2011 18:56:52
Last Modified	26.05.2011 19:51:52


## Attributes

private data : T			
Author	Administrator		
Create Date Time	26.05.2011 18:59:31		
Last Modified	26.05.2011 19:01:49		
Type	T		
Getter	false	Setter	false
Has Setter	false		
Has Getter	false		
Derived	false		
Multiplicity	Unspecified		
Aggregation	None		

private adjaceneys : List			
Author	Administrator		
Create Date Time	26.05.2011 18:59:38		
Last Modified	26.05.2011 19:51:52		
Template Type Bind Info	N/A		
Type	List		
Getter	false	Setter	false
Has Setter	false		
Has Getter	false		
Derived	false		
Multiplicity	Unspecified		
Aggregation	None		

## Relationships

Unnamed Association		
To	Name	Value
	End Model Element	 Edge<T>
	Author	Administrator
	Create Date Time	26.05.2011 19:02:26
	Last Modified	26.05.2011 19:05:16
	Provide Property Getter Method	false
	Provide Property Setter Method	false
	Multiplicity	0..*
	Visibility	Unspecified
	Aggregation Kind	None
	Navigable	true
	Derived	false
Abstract	false	
Leaf	false	
Visibility	Unspecified	
Author	Administrator	
Create Date Time	26.05.2011 19:02:26	
Last Modified	26.05.2011 19:05:16	
Derived	false	

Unnamed Association		
From	Name	Value
	End Model Element	 IGraph<T>
	Author	Administrator
	Create Date Time	26.05.2011 19:01:39
	Last Modified	26.05.2011 19:05:16
	Provide Property Getter Method	false
	Provide Property Setter Method	false
	Multiplicity	Unspecified
	Visibility	Unspecified
	Aggregation Kind	Aggregation
	Navigable	true
	Derived	false
Abstract	false	
Leaf	false	
Visibility	Unspecified	
Author	Administrator	
Create Date Time	26.05.2011 19:01:39	
Last Modified	26.05.2011 19:05:16	
Derived	false	

## Edge<T>


Name	Value
Active	false
Business Model	false
Visibility	public
Leaf	false
Root	false
Author	Administrator
Create Date Time	26.05.2011 19:00:19
Last Modified	26.05.2011 19:51:52

## Attributes

private node : Node			
Author	Administrator		
Create Date Time	26.05.2011 19:00:46		
Last Modified	26.05.2011 19:51:52		
Template Type Bind Info	N/A		
Type	Node		
Getter	false	Setter	false
Has Setter	false		
Has Getter	false		
Derived	false		
Multiplicity	Unspecified		
Aggregation	None		

private weight : int			
Author	Administrator		
Create Date Time	26.05.2011 19:00:51		
Last Modified	26.05.2011 19:01:49		
Type	 int		
Getter	false	Setter	false
Has Setter	false		
Has Getter	false		
Derived	false		
Multiplicity	Unspecified		
Aggregation	None		

## Relationships

Unnamed Association		
From	Name	Value
	End Model Element	 Node<T>
	Author	Administrator
	Create Date Time	26.05.2011 19:02:26
	Last Modified	26.05.2011 19:05:16
	Provide Property Getter Method	false
	Provide Property Setter Method	false
	Multiplicity	Unspecified
	Visibility	Unspecified
	Aggregation Kind	Aggregation
	Navigable	true
	Derived	false
Abstract	false	
Leaf	false	
Visibility	Unspecified	
Author	Administrator	
Create Date Time	26.05.2011 19:02:26	
Last Modified	26.05.2011 19:05:16	
Derived	false	

## MatrixGraph<T>

Name	Value
Active	false
Business Model	false
Visibility	public
Leaf	false
Root	false
Author	Administrator
Create Date Time	26.05.2011 19:02:54
Last Modified	26.05.2011 19:47:09



## Attributes

private adjacencyMatrix : Node			
Author	Administrator		
Create Date Time	26.05.2011 19:17:51		
Last Modified	26.05.2011 19:47:09		
Template Type Bind Info	N/A		
Type Modifier	[]		
Type	Node		
Getter	false	Setter	false
Has Setter	false		
Has Getter	false		
Derived	false		
Multiplicity	Unspecified		
Aggregation	None		

## Operations

public readXML (xml : File) : void		
Parameters	xml	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 18:57:49
	Last Modified	26.05.2011 19:47:09
	Type	File
	Direction	inout
	Static	false
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 18:57:16	
Last Modified	26.05.2011 19:47:09	
Ordered	false	
Unique	true	
Query	false	


public getAdjaceneys (node : Node) : Node		
Parameters	node	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 18:58:25
	Last Modified	26.05.2011 19:47:09
	Template Type Bind Info	N/A
	Type	Node
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 18:57:49	
Last Modified	26.05.2011 19:47:09	
Template Type Bind Info	N/A	
Type Modifier	[]	
Ordered	false	
Unique	true	
Query	false	


public getWeights (node : Node) : Node		
Parameters	node	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 18:58:46
	Last Modified	26.05.2011 19:47:09
	Template Type Bind Info	N/A
	Type	Node
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 18:58:25	
Last Modified	26.05.2011 19:47:09	
Template Type Bind Info	N/A	
Type Modifier	[]	
Ordered	false	
Unique	true	
Query	false	


public getOrder () : int	
Static	false
Leaf	false
Author	Administrator
Create Date Time	26.05.2011 18:58:46
Last Modified	26.05.2011 19:47:09
Ordered	false
Unique	true
Query	false

public getHeight () : int	
Static	false
Leaf	false
Author	Administrator
Create Date Time	26.05.2011 18:58:54
Last Modified	26.05.2011 19:47:09
Ordered	false
Unique	true
Query	false

# Relationships

Unnamed Association		
To	Name	Value
	End Model Element	 <a href="#">DijkstraAlgorithm</a>
	Author	Administrator
	Create Date Time	26.05.2011 19:29:39
	Last Modified	26.05.2011 19:47:09
	Provide Property Getter Method	false
	Provide Property Setter Method	false
	Multiplicity	Unspecified
	Visibility	Unspecified
	Aggregation Kind	None
	Navigable	true
	Derived	false
Abstract	false	
Leaf	false	
Visibility	Unspecified	
Author	Administrator	
Create Date Time	26.05.2011 19:29:39	
Last Modified	26.05.2011 19:47:09	
Derived	false	

Unnamed Generalization	
From	 <a href="#">IGraph&lt;T&gt;</a>
Author	Administrator
Create Date Time	26.05.2011 19:03:11
Last Modified	26.05.2011 19:47:09
Substitutable	false
Visibility	Unspecified

Unnamed Generalization	
From	 <a href="#">Benchmark&lt;T&gt;</a>
Author	Administrator
Create Date Time	26.05.2011 19:46:23
Last Modified	26.05.2011 19:47:09
Substitutable	false
Visibility	Unspecified

## ListGraph<T>

Name	Value
Active	false
Business Model	false
Visibility	public
Leaf	false
Root	false
Author	Administrator
Create Date Time	26.05.2011 19:03:17
Last Modified	26.05.2011 19:47:09

## Attributes

private adjanceneyList : List			
Author	Administrator		
Create Date Time	26.05.2011 19:18:52		
Last Modified	26.05.2011 19:47:09		
Template Type Bind Info	N/A		
Type	List		
Getter	false	Setter	false
Has Setter	false		
Has Getter	false		
Derived	false		
Multiplicity	Unspecified		
Aggregation	None		

# Operations

public readXML (xml : File) : void		
Parameters	xml	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 18:57:49
	Last Modified	26.05.2011 19:47:09
	Type	File
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 18:57:16	
Last Modified	26.05.2011 19:47:09	
Ordered	false	
Unique	true	
Query	false	


public getAdjaceneys (node : Node) : Node		
Parameters	node	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 18:58:25
	Last Modified	26.05.2011 19:47:09
	Template Type Bind Info	N/A
	Type	Node
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 18:57:49	
Last Modified	26.05.2011 19:47:09	
Template Type Bind Info	N/A	
Type Modifier	[]	
Ordered	false	
Unique	true	
Query	false	


public getWeights (node : Node) : Node		
Parameters	node	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 18:58:46
	Last Modified	26.05.2011 19:47:09
	Template Type Bind Info	N/A
	Type	Node
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 18:58:25	
Last Modified	26.05.2011 19:47:09	
Template Type Bind Info	N/A	
Type Modifier	[]	
Ordered	false	
Unique	true	
Query	false	


public getOrder () : int	
Static	false
Leaf	false
Author	Administrator
Create Date Time	26.05.2011 18:58:46
Last Modified	26.05.2011 19:47:09
Ordered	false
Unique	true
Query	false

public getHeight () : int	
Static	false
Leaf	false
Author	Administrator
Create Date Time	26.05.2011 18:58:54
Last Modified	26.05.2011 19:47:09
Ordered	false
Unique	true
Query	false

# Relationships

Unnamed Generalization	
From	 IGraph<T>
Author	Administrator
Create Date Time	26.05.2011 19:03:17
Last Modified	26.05.2011 19:05:16
Substitutable	false
Visibility	Unspecified

Unnamed Association		
From	Name	Value
	End Model Element	 DijkstraAlgorithm
	Author	Administrator
	Create Date Time	26.05.2011 19:29:08
	Last Modified	26.05.2011 19:29:51
	Provide Property Getter Method	false
	Provide Property Setter Method	false
	Multiplicity	Unspecified
	Visibility	Unspecified
	Aggregation Kind	None
	Navigable	true
	Derived	false
Abstract	false	
Leaf	false	
Visibility	Unspecified	
Author	Administrator	
Create Date Time	26.05.2011 19:29:08	
Last Modified	26.05.2011 19:29:51	
Derived	false	

Unnamed Generalization	
From	 Benchmark<T>
Author	Administrator
Create Date Time	26.05.2011 19:46:27
Last Modified	26.05.2011 19:47:09
Substitutable	false
Visibility	Unspecified




## DijkstraAlgorithm


Name	Value
Active	false
Business Model	false
Visibility	public
Leaf	false
Root	false
Author	Administrator
Create Date Time	26.05.2011 19:20:04
Last Modified	26.05.2011 20:01:53

## Operations

public getShortestPath (startNode : Node, targetNode : Node) : Node		
Parameters	startNode	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 19:21:28
	Last Modified	26.05.2011 20:01:53
	Type	Node
	Direction	inout
	targetNode	
	Multiplicity	Unspecified
	Author	Administrator
	Create Date Time	26.05.2011 19:21:28
	Last Modified	26.05.2011 20:01:53
	Template Type Bind Info	N/A
	Type	Node
	Direction	inout
Static	false	
Leaf	false	
Author	Administrator	
Create Date Time	26.05.2011 19:20:47	
Last Modified	26.05.2011 20:01:53	
Template Type Bind Info	N/A	
Type Modifier	[]	
Ordered	false	
Unique	true	
Query	false	

## Relationships

Unnamed Association		
To	Name	Value
	End Model Element	 ListGraph<T>
	Author	Administrator
	Create Date Time	26.05.2011 19:29:08
	Last Modified	26.05.2011 19:29:51
	Provide Property Getter Method	false
	Provide Property Setter Method	false
	Multiplicity	Unspecified
	Visibility	Unspecified
	Aggregation Kind	None
	Navigable	true
	Derived	false
Abstract	false	
Leaf	false	
Visibility	Unspecified	
Author	Administrator	
Create Date Time	26.05.2011 19:29:08	
Last Modified	26.05.2011 19:29:51	
Derived	false	

Unnamed Association		
From	Name	Value
	End Model Element	 MatrixGraph<T>
	Author	Administrator
	Create Date Time	26.05.2011 19:29:39
	Last Modified	26.05.2011 19:47:09
	Provide Property Getter Method	false
	Provide Property Setter Method	false
	Multiplicity	Unspecified
	Visibility	Unspecified
	Aggregation Kind	None
	Navigable	true
	Derived	false
Abstract	false	
Leaf	false	
Visibility	Unspecified	
Author	Administrator	
Create Date Time	26.05.2011 19:29:39	
Last Modified	26.05.2011 19:47:09	
Derived	false	