Package main

Class PennMap

java.lang.Object
    main.PennMap

All Implemented Interfaces:

IMapMaker, IMapModel

```
public class PennMap
extends java.lang.Object
implements IMapMaker, IMapModel
```

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Constructor Summary

Constructors

Constructor	Description
PennMap()	
PennMap(java.util.List<java.lang.String> init, **Coordinate** currPt)	This constructor is to make a field of all locations and roads based on the input data

Method Summary

All Methods **Instance Methods** **Concrete Methods**

Modifier and Type	Method	Description
java.util.List<**Location**>	**findAll**(java.lang.String type, double dist)	this method will find all locations for the specific distance given
Location	**findNearest**(java.lang.String type)	findNearest() returns the nearest Location of a given type from the current

		directions in text for the shortest path from a starting Location to a destination
Coordinate	**getCurrentPoint**()	get the current location of user
Graph	**getGraph**()	get graph
java.util.List<**Location**>	**getLocationList**()	get all locations
java.util.List<**Road**>	**getRoadList**()	get road list or all roads
IQuadTree	**getTree**()	get quadtree that associated with this map
IGraph	**makeGraph**()	make a graph for the pennmap
IQuadTree	**makeQuadTree**()	makeQuadTree() constructs a IQuadTree to store a list of Locations
void	**setCurrentPoint** (**Coordinate** currentPoint)	set users current location
void	**setGraph**(**Graph** graph)	set the graph
void	**setLocationList** (java.util.List<**Location**> locationList)	set location list
void	**setRoadList** (java.util.List<**Road**> roadList)	set the roadlist to de destinated list
void	**setTree**(**QuadTree** tree)	set tree

Methods inherited from class java.lang.Object

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

```
public PennMap()
```

PennMap

```
public PennMap(java.util.List<java.lang.String> init,
               Coordinate currPt)
```

This constructor is to make a field of all locations and roads based on the input data

Parameters:

`initial` - data input

`current` - location of the user

Method Detail

findShortestPath

```
public java.lang.String findShortestPath(java.lang.String loc1,
                                         java.lang.String loc2)
```

Description copied from interface: `IMapModel`

findShortestPath() returns the directions in text for the shortest path from a starting Location to a destination

Specified by:

`findShortestPath` in interface `IMapModel`

Parameters:

`loc1` - ---- the starting location

`loc2` - ---- the ending location

Returns:

the directions for the shortest path from one location to another

findAll

```
public java.util.List<Location> findAll(java.lang.String type,
                                        double dist)
```

`type` - --- type of the location

`dist` - ----the distance from user input

Returns:

a list of locations in the given distance

findNearest

```
public Location findNearest(java.lang.String type)
```

Description copied from interface: `IMapModel`

findNearest() returns the nearest Location of a given type from the current user Location, or null if not found

Specified by:

`findNearest` in interface `IMapModel`

Parameters:

`type` - ---the type of location

Returns:

the nearest location for the specific type

makeQuadTree

```
public IQuadTree makeQuadTree()
```

Description copied from interface: `IMapMaker`

makeQuadTree() constructs a IQuadTree to store a list of Locations

Specified by:

`makeQuadTree` in interface `IMapMaker`

Parameters:

`locationList` - ---- list of locations of this pennmap

Returns:

a quadtree that is associated with this pennmap

makeGraph

```
public IGraph makeGraph()
```

a graph that associated with this specific pennmap

getTree

```
public IQuadTree getTree()
```

get quadtree that associated with this map

Returns:

this quadtree

setTree

```
public void setTree(QuadTree tree)
```

set tree

Parameters:

`tree` -

getGraph

```
public Graph getGraph()
```

get graph

Returns:

the graph associated with the map

setGraph

```
public void setGraph(Graph graph)
```

set the graph

Parameters:

`graph` -

Returns:

the current location of user

setCurrentPoint

```
public void setCurrentPoint(Coordinate currentPoint)
```

set users current location

Parameters:

`currentPoint` -

getRoadList

```
public java.util.List<Road> getRoadList()
```

get road list or all roads

Returns:

the roadlist

setRoadList

```
public void setRoadList(java.util.List<Road> roadList)
```

set the roadlist to de destinated list

Parameters:

`roadList` -

getLocationList

```
public java.util.List<Location> getLocationList()
```

get all locations

Returns:

location list

Parameters:

`locationList` -

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