Package main

Class LeafNode

java.lang.Object
    main.BaseNode
        main.LeafNode

```
public class LeafNode
extends BaseNode
```

The LeafNode class models a LeafNode in our QuadTree, which stores the location info

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Constructor Summary

Constructors

Constructor	Description
`LeafNode(java.lang.String name, java.lang.String type, Coordinate coord, Range range)`	copy constructor of this class, which initializes name, type and coord with given values

Method Summary

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

Modifier and Type	Method	Description
`Coordinate`	`getCoord()`	
`java.lang.String`	`getName()`	
`java.lang.String`	`getType()`	
`boolean`	`isEmpty()`	isEmpty() checks if this LeafNode is empty
`void`	`search(java.lang.String type, Range range, java.util.List<Location> locs)`	search() searches Locations of a given type with in a given Range and modifies a parameter locs to include all search results.

`InternalNode`	`split()`	split() splits a LeafNode into 4 and returns the InternalNode that is the root of these 4 LeafNodes; it also transit the current contents stored in this leaf node to its children

Methods inherited from class main.BaseNode

`getRange, mathSplit, setRange`

Methods inherited from class java.lang.Object

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

Constructor Detail

LeafNode

```
public LeafNode(java.lang.String name,
                java.lang.String type,
                Coordinate coord,
                Range range)
```

copy constructor of this class, which initializes name, type and coord with given values

Parameters:

`name` - name of the location

`type` - type of location

`coord` - coordinate of the location

`range` -

Method Detail

getName

```
public java.lang.String getName()
```

Returns:

```
public void setName(java.lang.String name)
```

Parameters:

`set` - new name of the location

getType

```
public java.lang.String getType()
```

Returns:

type of location

setType

```
public void setType(java.lang.String type)
```

Parameters:

`type` - new type of the location

getCoord

```
public Coordinate getCoord()
```

Returns:

get Coordinate of the location

setCoord

```
public void setCoord(Coordinate coord)
```

Parameters:

`set` - new Coordinate of the location

search

```
public void search(java.lang.String type,
                   Range range,
```

Specified by:

`search` in class `BaseNode`

Parameters:

`type` - the type of Location we want to search

`range` - the search Range

`locs` - a list of Locations containing the search results (mofify in-place)

split

```
public InternalNode split()
```

split() splits a LeafNode into 4 and returns the InternalNode that is the root of these 4 LeafNodes; it also transit the current contents stored in this leaf node to its children

Returns:

the InternalNode that is the root of the 4 LeafNodes after splitting

isEmpty

```
public boolean isEmpty()
```

isEmpty() checks if this LeafNode is empty

Specified by:

`isEmpty` in class `BaseNode`

Returns:

true if this LeafNode contains no location in it