Package main

Class BaseNode

java.lang.Object
    main.BaseNode

Direct Known Subclasses:

EmptyNode, InternalNode, LeafNode

```
public abstract class BaseNode
extends java.lang.Object
```

The BaseNode class models a generic node in our QuadTree

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Constructor Summary

Constructors

Constructor	Description
BaseNode()	Empty constructor of the BaseNode class, which initializes the Range of this node to default value
BaseNode(**Range** range)	Copy constructor of the BaseNode class, which initializes the Range of this node to a given Range

Method Summary

All Methods **Static Methods** **Instance Methods** **Abstract Methods** **Concrete Methods**

Modifier and Type	Method	Description
Range	**getRange**()	Getter for the Range
abstract boolean	**isEmpty**()	isEmpty() returns true if this node is empty
static **Range**	**mathSplit**(**Range** range, **Coordinate** c)	mathSplit() static method help to calculate which direction of the range

		all search results.
void	**setRange**(**Range** range)	Setter for the Range

Methods inherited from class java.lang.Object

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

Constructor Detail

BaseNode

```
public BaseNode()
```

Empty constructor of the BaseNode class, which initializes the Range of this node to default value

BaseNode

```
public BaseNode(Range range)
```

Copy constructor of the BaseNode class, which initializes the Range of this node to a given Range

Parameters:

range -

Method Detail

getRange

```
public Range getRange()
```

Getter for the Range

Returns:

the Range of this node

setRange

`range` - the new Range of this node

search

```
public abstract 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.

Parameters:

`type` - type of the target locations(e.g. "Restaurant")

`range` - range of the target locations

`locs` - result of target locations

isEmpty

```
public abstract boolean isEmpty()
```

isEmpty() returns true if this node is empty

Returns:

true if this node is empty

mathSplit

```
public static Range mathSplit(Range range,
                              Coordinate c)
```

mathSplit() static method help to calculate which direction of the range is the given coordinate in

Parameters:

`range` - range to split

`c` - coordinate of target

Returns:

a sub-Range in which c is in (NE, NW, SE, SW)