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[Skip navigation links](#1fob9te)

* [Overview](http://docs.google.com/overview-summary.html)
* [Package](http://docs.google.com/package-summary.html)
* Class
* [Use](http://docs.google.com/class-use/Maze.html)
* [Tree](http://docs.google.com/package-tree.html)
* [Deprecated](http://docs.google.com/deprecated-list.html)
* [Index](http://docs.google.com/index-files/index-1.html)
* [Help](http://docs.google.com/help-doc.html)
* [Prev Class](http://docs.google.com/maze/Juncture.html)
* [Next Class](http://docs.google.com/maze/MazeGUI.html)
* [Frames](http://docs.google.com/index.html?maze/Maze.html)
* [No Frames](http://docs.google.com/Maze.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)
* Summary:
* Nested |
* Field |
* [Constr](#3znysh7) |
* [Method](#2et92p0)
* Detail:
* Field |
* [Constr](#3dy6vkm) |
* [Method](#2s8eyo1)

maze

## Class Maze

* java.lang.Object
  + maze.Maze
* public class Maze  
  extends java.lang.Object  
  This class represents a randomly generated Maze, for use in CMSC132 projects at UMCP.  
  The Maze should be imagined as a rectangular grid of "Junctures" (intersections). There is a wall surrounding the entire grid. Adjacent junctures may or may not have a "wall" between them.  
  There is also a weight (positive integer) between any two junctures. This weight could be viewed as the "cost" of traveling from a juncture to an adjacent juncture.Author: Fawzi Emad, (C) 2016

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [Maze](http://docs.google.com/maze/Maze.html#Maze-int-int-int-)(int mazeHeight, int mazeWidth, int sparcity) Construct random maze. |
| * + [Maze](http://docs.google.com/maze/Maze.html#Maze-int-int-int-long-)(int mazeHeight, int mazeWidth, int sparcity, long randomSeed) This constructor also allows a seed for the random number generator. |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + int | * + [getMazeHeight](http://docs.google.com/maze/Maze.html#getMazeHeight--)() Returns the height of this maze. |
| * + int | * + [getMazeWidth](http://docs.google.com/maze/Maze.html#getMazeWidth--)() Returns the width of this maze. |
| * + int | * + [getWeightAbove](http://docs.google.com/maze/Maze.html#getWeightAbove-maze.Juncture-)([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns the weight between this juncture and the one above. |
| * + int | * + [getWeightBelow](http://docs.google.com/maze/Maze.html#getWeightBelow-maze.Juncture-)([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns the weight between this juncture and the one below. |
| * + int | * + [getWeightToLeft](http://docs.google.com/maze/Maze.html#getWeightToLeft-maze.Juncture-)([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns the weight between this juncture and the one to its left. |
| * + int | * + [getWeightToRight](http://docs.google.com/maze/Maze.html#getWeightToRight-maze.Juncture-)([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns the weight between this juncture and the one to its right. |
| * + boolean | * + [isWallAbove](http://docs.google.com/maze/Maze.html#isWallAbove-maze.Juncture-)([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns true if there is a wall above the given juncture, false otherwise. |
| * + boolean | * + [isWallBelow](http://docs.google.com/maze/Maze.html#isWallBelow-maze.Juncture-)([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns true if there is a wall below the given juncture, false otherwise. |
| * + boolean | * + [isWallToLeft](http://docs.google.com/maze/Maze.html#isWallToLeft-maze.Juncture-)([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns true if there is a wall to the left of the given juncture, false otherwise. |
| * + boolean | * + [isWallToRight](http://docs.google.com/maze/Maze.html#isWallToRight-maze.Juncture-)([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns true if there is a wall to the right of the given juncture, false otherwise. |

### Methods inherited from class java.lang.Objectequals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

### Constructor Detail

#### Maze public Maze(int mazeHeight, int mazeWidth, int sparcity) Construct random maze.Parameters: mazeHeight - mazeWidth - sparcity - value from 0 to 100. If set to 100, there is exactly one path from any juncture to any other juncture. Lower values have fewer walls, hence more paths between junctures.

#### Maze public Maze(int mazeHeight, int mazeWidth, int sparcity, long randomSeed) This constructor also allows a seed for the random number generator. (If you pass in the same seed, you get the same maze every time.)Parameters: mazeHeight - mazeWidth - sparcity - randomSeed -

### Method Detail

#### getMazeWidth public int getMazeWidth() Returns the width of this maze. (This is the width of the grid of junctures.)Returns: width of maze

#### getMazeHeight public int getMazeHeight() Returns the height of this maze. (This is the height of the grid of junctures.)Returns: height of maze

#### isWallAbove public boolean isWallAbove([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns true if there is a wall above the given juncture, false otherwise.Parameters: juncture - Returns: true if there is a wall above this juncture

#### isWallBelow public boolean isWallBelow([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns true if there is a wall below the given juncture, false otherwise.Parameters: juncture - Returns: true if there is a wall below this juncture

#### isWallToLeft public boolean isWallToLeft([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns true if there is a wall to the left of the given juncture, false otherwise.Parameters: juncture - Returns: true if there is a wall to the left of this juncture

#### isWallToRight public boolean isWallToRight([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns true if there is a wall to the right of the given juncture, false otherwise.Parameters: juncture - Returns: true if there is a wall to the right of this juncture

#### getWeightAbove public int getWeightAbove([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns the weight between this juncture and the one above.Parameters: juncture - Returns: a positive integer

#### getWeightBelow public int getWeightBelow([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns the weight between this juncture and the one below.Parameters: juncture - Returns: a positive integer

#### getWeightToLeft public int getWeightToLeft([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns the weight between this juncture and the one to its left.Parameters: juncture - Returns: a positive integer

#### getWeightToRight public int getWeightToRight([Juncture](http://docs.google.com/maze/Juncture.html) juncture) Returns the weight between this juncture and the one to its right.Parameters: juncture - Returns: a positive integer

[Skip navigation links](#2xcytpi)

* [Overview](http://docs.google.com/overview-summary.html)
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* [Use](http://docs.google.com/class-use/Maze.html)
* [Tree](http://docs.google.com/package-tree.html)
* [Deprecated](http://docs.google.com/deprecated-list.html)
* [Index](http://docs.google.com/index-files/index-1.html)
* [Help](http://docs.google.com/help-doc.html)
* [Prev Class](http://docs.google.com/maze/Juncture.html)
* [Next Class](http://docs.google.com/maze/MazeGUI.html)
* [Frames](http://docs.google.com/index.html?maze/Maze.html)
* [No Frames](http://docs.google.com/Maze.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)
* Summary:
* Nested |
* Field |
* [Constr](#3znysh7) |
* [Method](#2et92p0)
* Detail:
* Field |
* [Constr](#3dy6vkm) |
* [Method](#2s8eyo1)

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