| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-all.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | | |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| PREV CLASS   NEXT CLASS | [**FRAMES**](http://docs.google.com/index.html?info/gridworld/world/World.html)    [**NO FRAMES**](http://docs.google.com/World.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#2s8eyo1) |

## **info.gridworld.world**

Class World<T>

[java.lang.Object](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true)  
 **info.gridworld.world.World<T>**

**Direct Known Subclasses:** [ActorWorld](http://docs.google.com/info/gridworld/actor/ActorWorld.html)

public class **World<T>**extends [Object](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true)

A World is the mediator between a grid and the GridWorld GUI.

This class is not tested on the AP CS A and AB exams.

| **Constructor Summary** | |
| --- | --- |
| [**World**](http://docs.google.com/info/gridworld/world/World.html#World())() |
| [**World**](http://docs.google.com/info/gridworld/world/World.html#World(info.gridworld.grid.Grid))([Grid](http://docs.google.com/info/gridworld/grid/Grid.html)<[T](http://docs.google.com/info/gridworld/world/World.html)> g) |

| **Method Summary** | |
| --- | --- |
| void | [**add**](http://docs.google.com/info/gridworld/world/World.html#add(info.gridworld.grid.Location,%20T))([Location](http://docs.google.com/info/gridworld/grid/Location.html) loc, [T](http://docs.google.com/info/gridworld/world/World.html) occupant)            Adds an occupant at a given location. |
| void | [**addGridClass**](http://docs.google.com/info/gridworld/world/World.html#addGridClass(java.lang.String))([String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) className)            Adds a class to be shown in the "Set grid" menu. |
| void | [**addOccupantClass**](http://docs.google.com/info/gridworld/world/World.html#addOccupantClass(java.lang.String))([String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) className)            Adds a class to be shown when clicking on an empty location. |
| [Grid](http://docs.google.com/info/gridworld/grid/Grid.html)<[T](http://docs.google.com/info/gridworld/world/World.html)> | [**getGrid**](http://docs.google.com/info/gridworld/world/World.html#getGrid())()            Gets the grid managed by this world. |
| [Set](http://java.sun.com/j2se/1.5.0/docs/api/java/util/Set.html?is-external=true)<[String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true)> | [**getGridClasses**](http://docs.google.com/info/gridworld/world/World.html#getGridClasses())()            Gets a set of grid classes that should be used by the world frame for this world. |
| [String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) | [**getMessage**](http://docs.google.com/info/gridworld/world/World.html#getMessage())()            Gets the message to be displayed in the world frame above the grid. |
| [Set](http://java.sun.com/j2se/1.5.0/docs/api/java/util/Set.html?is-external=true)<[String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true)> | [**getOccupantClasses**](http://docs.google.com/info/gridworld/world/World.html#getOccupantClasses())()            Gets a set of occupant classes that should be used by the world frame for this world. |
| [Location](http://docs.google.com/info/gridworld/grid/Location.html) | [**getRandomEmptyLocation**](http://docs.google.com/info/gridworld/world/World.html#getRandomEmptyLocation())()            Gets a random empty location in this world. |
| boolean | [**keyPressed**](http://docs.google.com/info/gridworld/world/World.html#keyPressed(java.lang.String,%20info.gridworld.grid.Location))([String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) description, [Location](http://docs.google.com/info/gridworld/grid/Location.html) loc)            This method is called when a key was pressed. |
| boolean | [**locationClicked**](http://docs.google.com/info/gridworld/world/World.html#locationClicked(info.gridworld.grid.Location))([Location](http://docs.google.com/info/gridworld/grid/Location.html) loc)            This method is called when the user clicks on a location in the WorldFrame. |
| [T](http://docs.google.com/info/gridworld/world/World.html) | [**remove**](http://docs.google.com/info/gridworld/world/World.html#remove(info.gridworld.grid.Location))([Location](http://docs.google.com/info/gridworld/grid/Location.html) loc)            Removes an occupant from a given location. |
| void | [**setGrid**](http://docs.google.com/info/gridworld/world/World.html#setGrid(info.gridworld.grid.Grid))([Grid](http://docs.google.com/info/gridworld/grid/Grid.html)<[T](http://docs.google.com/info/gridworld/world/World.html)> newGrid)            Sets the grid managed by this world. |
| void | [**setMessage**](http://docs.google.com/info/gridworld/world/World.html#setMessage(java.lang.String))([String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) newMessage)            Sets the message to be displayed in the world frame above the grid. |
| void | [**show**](http://docs.google.com/info/gridworld/world/World.html#show())()            Constructs and shows a frame for this world. |
| void | [**step**](http://docs.google.com/info/gridworld/world/World.html#step())()            This method is called when the user clicks on the step button, or when run mode has been activated by clicking the run button. |
| [String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) | [**toString**](http://docs.google.com/info/gridworld/world/World.html#toString())()            Returns a string that shows the positions of the grid occupants. |

| **Methods inherited from class java.lang.**[**Object**](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true) |
| --- |
| [clone](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true#clone()), [equals](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true#equals(java.lang.Object)), [finalize](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true#finalize()), [getClass](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true#getClass()), [hashCode](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true#hashCode()), [notify](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true#notify()), [notifyAll](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true#notifyAll()), [wait](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true#wait()), [wait](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true#wait(long)), [wait](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true#wait(long,%20int)) |

| **Constructor Detail** |
| --- |

### World

public **World**()

### World

public **World**([Grid](http://docs.google.com/info/gridworld/grid/Grid.html)<[T](http://docs.google.com/info/gridworld/world/World.html)> g)

| **Method Detail** |
| --- |

### show

public void **show**()

Constructs and shows a frame for this world.

### getGrid

public [Grid](http://docs.google.com/info/gridworld/grid/Grid.html)<[T](http://docs.google.com/info/gridworld/world/World.html)> **getGrid**()

Gets the grid managed by this world.

**Returns:**the grid

### setGrid

public void **setGrid**([Grid](http://docs.google.com/info/gridworld/grid/Grid.html)<[T](http://docs.google.com/info/gridworld/world/World.html)> newGrid)

Sets the grid managed by this world.

**Parameters:**newGrid - the new grid

### setMessage

public void **setMessage**([String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) newMessage)

Sets the message to be displayed in the world frame above the grid.

**Parameters:**newMessage - the new message

### getMessage

public [String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) **getMessage**()

Gets the message to be displayed in the world frame above the grid.

**Returns:**the message

### step

public void **step**()

This method is called when the user clicks on the step button, or when run mode has been activated by clicking the run button.

### locationClicked

public boolean **locationClicked**([Location](http://docs.google.com/info/gridworld/grid/Location.html) loc)

This method is called when the user clicks on a location in the WorldFrame.

**Parameters:**loc - the grid location that the user selected **Returns:**true if the world consumes the click, or false if the GUI should invoke the Location->Edit menu action

### keyPressed

public boolean **keyPressed**([String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) description,  
 [Location](http://docs.google.com/info/gridworld/grid/Location.html) loc)

This method is called when a key was pressed. Override it if your world wants to consume some keys (e.g. "1"-"9" for Sudoku). Don't consume plain arrow keys, or the user loses the ability to move the selection square with the keyboard.

**Parameters:**description - the string describing the key, in [this format](http://java.sun.com/j2se/1.5.0/docs/api/javax/swing/KeyStroke.html#getKeyStroke(java.lang.String)).loc - the selected location in the grid at the time the key was pressed **Returns:**true if the world consumes the key press, false if the GUI should consume it.

### getRandomEmptyLocation

public [Location](http://docs.google.com/info/gridworld/grid/Location.html) **getRandomEmptyLocation**()

Gets a random empty location in this world.

**Returns:**a random empty location

### add

public void **add**([Location](http://docs.google.com/info/gridworld/grid/Location.html) loc,  
 [T](http://docs.google.com/info/gridworld/world/World.html) occupant)

Adds an occupant at a given location.

**Parameters:**loc - the locationoccupant - the occupant to add

### remove

public [T](http://docs.google.com/info/gridworld/world/World.html) **remove**([Location](http://docs.google.com/info/gridworld/grid/Location.html) loc)

Removes an occupant from a given location.

**Parameters:**loc - the location **Returns:**the removed occupant, or null if the location was empty

### addGridClass

public void **addGridClass**([String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) className)

Adds a class to be shown in the "Set grid" menu.

**Parameters:**className - the name of the grid class

### addOccupantClass

public void **addOccupantClass**([String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) className)

Adds a class to be shown when clicking on an empty location.

**Parameters:**className - the name of the occupant class

### getGridClasses

public [Set](http://java.sun.com/j2se/1.5.0/docs/api/java/util/Set.html?is-external=true)<[String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true)> **getGridClasses**()

Gets a set of grid classes that should be used by the world frame for this world.

**Returns:**the set of grid class names

### getOccupantClasses

public [Set](http://java.sun.com/j2se/1.5.0/docs/api/java/util/Set.html?is-external=true)<[String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true)> **getOccupantClasses**()

Gets a set of occupant classes that should be used by the world frame for this world.

**Returns:**the set of occupant class names

### toString

public [String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html?is-external=true) **toString**()

Returns a string that shows the positions of the grid occupants.

**Overrides:**[toString](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true#toString()) in class [Object](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/Object.html?is-external=true)

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-all.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | | |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| PREV CLASS   NEXT CLASS | [**FRAMES**](http://docs.google.com/index.html?info/gridworld/world/World.html)    [**NO FRAMES**](http://docs.google.com/World.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#2s8eyo1) |