PROGRAMACION ORIENTADA A OBJETOS

Manual de programador  
Move In City

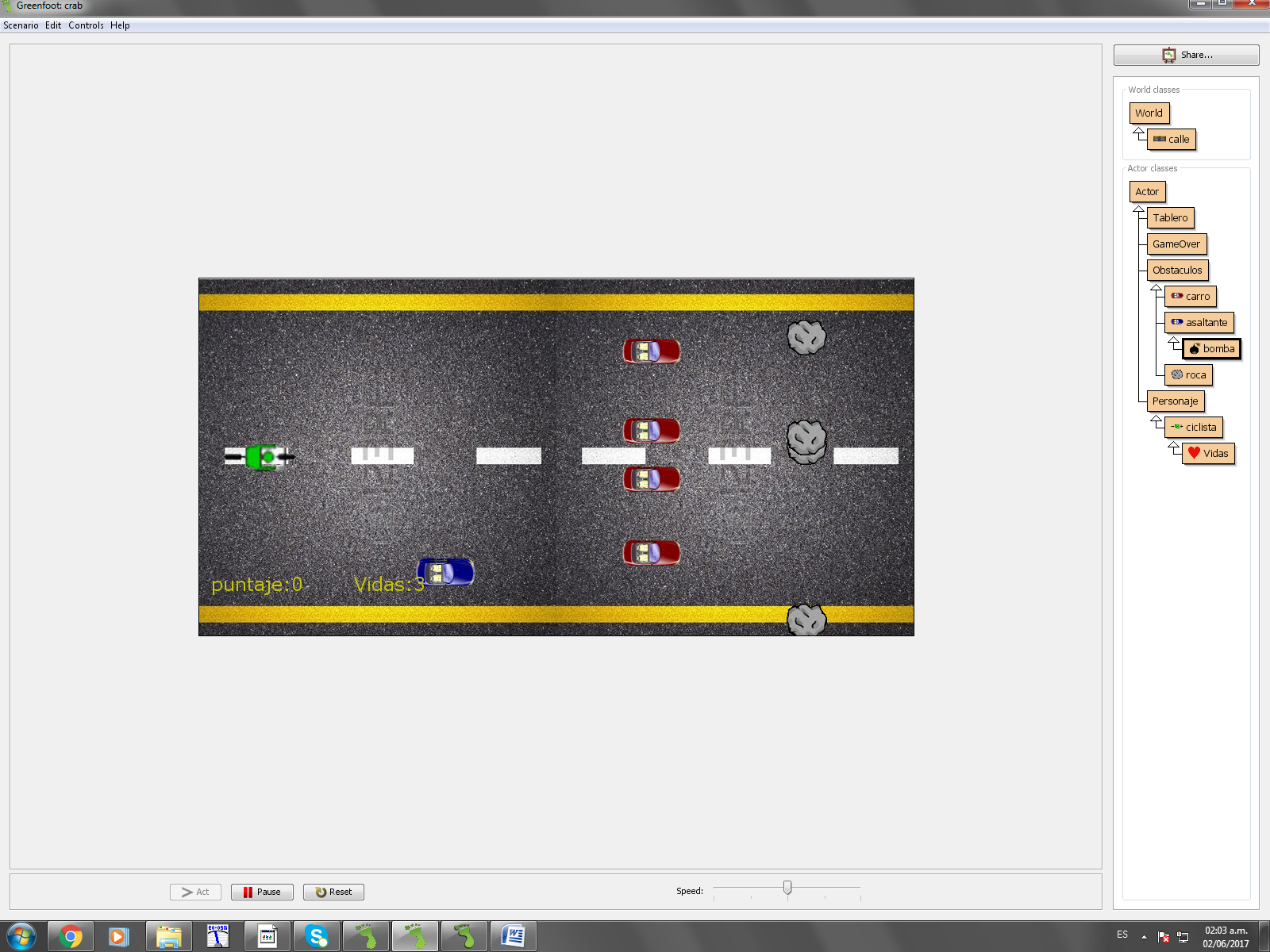
Semestre 2016-2017/II

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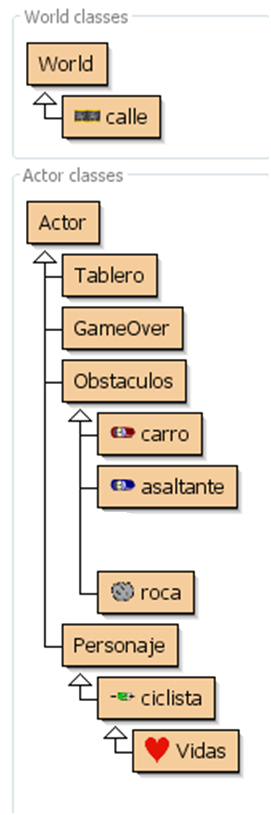
[Objetivo del proyecto](#h.bsu9evf8nxs1): Aplicar los conocimientos adquiridos en la clase de programación orientada a objetos

[Descripción del proyecto](#h.eivcmejh9ing): el proyecto es un juego en el que un ciclista tiene que esquivar varios obstáculos, el jugador tiene 3 vidas, si choca contra alguno de los obstáculos, perderá una vida, cada que supere un obstáculo obtendrá 10 puntos

[**DESCRIPCION**](#h.dipcv9h52uj1) **E IMAGEN**



[**Diagrama de clases UML**](#h.g0vt53pc7r37)



## Class calle

java.lang.Object

greenfoot.World

**calle**

public class **calle**extends greenfoot.World

Esta clase contiene al mundo en general, contiene los metodos para inicializar los actores y mostar puntuacion y vidas

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| --- | --- |
| **Field Summary** | |
| Vidas | [**life**](about:blankcalle.html#life) |

|  |  |
| --- | --- |
| **Constructor Summary** | |
| [**calle**](about:blankcalle.html#calle())()           Constructor for objects of class calle. |  |

|  |  |
| --- | --- |
| **Method Summary** | |
| void | [**creaasaltante**](about:blankcalle.html#creaasaltante(int))(int num)           Este metodo inicializa el actor asaltante |
| void | [**creacarro**](about:blankcalle.html#creacarro(int))(int num)           Este metodo inicializa el actor carro |
| void | [**crearoca**](about:blankcalle.html#crearoca(int))(int num)           Este metodo inicializa el actor roca |
| void | [**prepare**](about:blankcalle.html#prepare())()           prepara el mundo, manda inicializar al jugador, lo coloca en el mundo y manda llamar los metodos para inicializar a los demas actores |

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| **Methods inherited from class greenfoot.World** |
| act, addObject, getBackground, getCellSize, getColorAt, getHeight, getObjects, getObjectsAt, getWidth, numberOfObjects, removeObject, removeObjects, repaint, setActOrder, setBackground, setBackground, setPaintOrder, showText, started, stopped |

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| --- |
| **Methods inherited from class java.lang.Object** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

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| --- |
| **Field Detail** |

### life

public Vidas **life**

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

### calle

public **calle**()

Constructor for objects of class calle.

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

### creaasaltante

public void **creaasaltante**(int num)

Este metodo inicializa el actor asaltante

### creacarro

public void **creacarro**(int num)

Este metodo inicializa el actor carro

### crearoca

public void **crearoca**(int num)

Este metodo inicializa el actor roca

### prepare

public void **prepare**()

prepara el mundo, manda inicializar al jugador, lo coloca en el mundo y manda llamar los metodos para inicializar a los demas actores

## Class Tablero

java.lang.Object

greenfoot.Actor

**Tablero**

public class **Tablero**extends greenfoot.Actor

Esta clase diseña todo el tablero que muestra puntos y vidas

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| --- | --- |
| **Constructor Summary** | |
| [**Tablero**](about:blankTablero.html#Tablero(int, java.lang.String))(int c, java.lang.String msj) |  |

|  |  |
| --- | --- |
| **Method Summary** | |
| void | [**aumentar**](about:blankTablero.html#aumentar())()           Esta funcion aumenta la puntuacion |
| void | [**dibuja**](about:blankTablero.html#dibuja())()           Esta funcion borra el tablero y despues vuelve a escribirlo con los valores actuales |
| void | [**disminuir**](about:blankTablero.html#disminuir())()           Esta funcion disminuye las vidas del jugador |
| int | [**obtenerValor**](about:blankTablero.html#obtenerValor())()           Esta funcion regresa las vidas para saber si el jugador ya ha perdido o aun no |

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| --- |
| **Methods inherited from class greenfoot.Actor** |
| act, addedToWorld, getImage, getIntersectingObjects, getNeighbours, getObjectsAtOffset, getObjectsInRange, getOneIntersectingObject, getOneObjectAtOffset, getRotation, getWorld, getWorldOfType, getX, getY, intersects, isAtEdge, isTouching, move, removeTouching, setImage, setImage, setLocation, setRotation, turn, turnTowards |

|  |
| --- |
| **Methods inherited from class java.lang.Object** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

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

### Tablero

public **Tablero**(int c,

java.lang.String msj)

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

### aumentar

public void **aumentar**()

Esta funcion aumenta la puntuacion

### dibuja

public void **dibuja**()

Esta funcion borra el tablero y despues vuelve a escribirlo con los valores actuales

### disminuir

public void **disminuir**()

Esta funcion disminuye las vidas del jugador

### obtenerValor

public int **obtenerValor**()

Esta funcion regresa las vidas para saber si el jugador ya ha perdido o aun no

## Class GameOver

java.lang.Object

greenfoot.Actor

**GameOver**

public class **GameOver**extends greenfoot.Actor

Write a description of class GameOver here.

**Version:**

(a version number or a date)

**Author:**

(your name)

|  |  |
| --- | --- |
| **Constructor Summary** | |
| [**GameOver**](about:blankGameOver.html#GameOver())()           Coloca el letrero de juego terminado cuando el jugador pierde |  |

|  |
| --- |
| **Method Summary** |

|  |
| --- |
| **Methods inherited from class greenfoot.Actor** |
| act, addedToWorld, getImage, getIntersectingObjects, getNeighbours, getObjectsAtOffset, getObjectsInRange, getOneIntersectingObject, getOneObjectAtOffset, getRotation, getWorld, getWorldOfType, getX, getY, intersects, isAtEdge, isTouching, move, removeTouching, setImage, setImage, setLocation, setRotation, turn, turnTowards |

|  |
| --- |
| **Methods inherited from class java.lang.Object** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

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

### GameOver

public **GameOver**()

Coloca el letrero de juego terminado cuando el jugador pierde

## Class Obstaculos

java.lang.Object

greenfoot.Actor

**Obstaculos**

public class **Obstaculos**extends greenfoot.Actor

Write a description of class Obstaculos here.

**Version:**

(a version number or a date)

**Author:**

(your name)

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| --- | --- |
| **Constructor Summary** | |
| [**Obstaculos**](about:blankObstaculos.html#Obstaculos())() |  |

|  |  |
| --- | --- |
| **Method Summary** | |
| void | [**actasaltante**](about:blankObstaculos.html#actasaltante(int))(int velocidad)           Este metodo inicializa el actor asaltante asigna su velocidad y manda a realizar las acciones correspondientes a un obstaculo |
| void | [**actcarro**](about:blankObstaculos.html#actcarro(int))(int velocidad)           Este metodo inicializa el actor carro asigna su velocidad y manda a realizar las acciones correspondientes a un obstaculo |
| void | [**actroca**](about:blankObstaculos.html#actroca(int))(int velocidad)           Este metodo inicializa el actor roca asigna su velocidad y manda a realizar las acciones correspondientes a un obstaculo |

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| --- |
| **Methods inherited from class greenfoot.Actor** |
| act, addedToWorld, getImage, getIntersectingObjects, getNeighbours, getObjectsAtOffset, getObjectsInRange, getOneIntersectingObject, getOneObjectAtOffset, getRotation, getWorld, getWorldOfType, getX, getY, intersects, isAtEdge, isTouching, move, removeTouching, setImage, setImage, setLocation, setRotation, turn, turnTowards |

|  |
| --- |
| **Methods inherited from class java.lang.Object** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

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

### Obstaculos

public **Obstaculos**()

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

### actasaltante

public void **actasaltante**(int velocidad)

Este metodo inicializa el actor asaltante asigna su velocidad y manda a realizar las acciones correspondientes a un obstaculo

### actcarro

public void **actcarro**(int velocidad)

Este metodo inicializa el actor carro asigna su velocidad y manda a realizar las acciones correspondientes a un obstaculo

### actroca

public void **actroca**(int velocidad)

Este metodo inicializa el actor roca asigna su velocidad y manda a realizar las acciones correspondientes a un obstaculo

## Class carro

java.lang.Object

greenfoot.Actor

Obstaculos

**carro**

public class **carro**extends Obstaculos

Write a description of class carro here.

**Version:**

(a version number or a date)

**Author:**

(your name)

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| --- | --- |
| **Constructor Summary** | |
| [**carro**](about:blankcarro.html#carro())() |  |

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| **Method Summary** | |
| void | [**act**](about:blankcarro.html#act())()           Este metodo inicializa el carro heredando las caracteristicas desde la clase Obstaculo |

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| **Methods inherited from class Obstaculos** |
| actasaltante, actcarro, actroca |

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| --- |
| **Methods inherited from class greenfoot.Actor** |
| addedToWorld, getImage, getIntersectingObjects, getNeighbours, getObjectsAtOffset, getObjectsInRange, getOneIntersectingObject, getOneObjectAtOffset, getRotation, getWorld, getWorldOfType, getX, getY, intersects, isAtEdge, isTouching, move, removeTouching, setImage, setImage, setLocation, setRotation, turn, turnTowards |

|  |
| --- |
| **Methods inherited from class java.lang.Object** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

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

### carro

public **carro**()

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

### act

public void **act**()

Este metodo inicializa el carro heredando las caracteristicas desde la clase Obstaculo

**Overrides:**

act in class greenfoot.Actor

## Class asaltante

java.lang.Object

greenfoot.Actor

Obstaculos

**asaltante**

public class **asaltante**extends Obstaculos

Write a description of class asaltante here.

**Version:**

(a version number or a date)

**Author:**

(your name)

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| --- | --- |
| **Constructor Summary** | |
| [**asaltante**](about:blankasaltante.html#asaltante())() |  |

|  |  |
| --- | --- |
| **Method Summary** | |
| void | [**act**](about:blankasaltante.html#act())()           Este metodo incializa al asaltante por herencia de la clase obstaculo |
| void | [**avientabomba**](about:blankasaltante.html#avientabomba())()           Este metodo es heradado por la clase bomba para que el asaltante suelte al azar una bomba contra el jugador |
| int | [**creanumero**](about:blankasaltante.html#creanumero())()           Este metodo inicializa un numero aleatorio para crear la bomba |

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| **Methods inherited from class Obstaculos** |
| actasaltante, actcarro, actroca |

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| **Methods inherited from class greenfoot.Actor** |
| addedToWorld, getImage, getIntersectingObjects, getNeighbours, getObjectsAtOffset, getObjectsInRange, getOneIntersectingObject, getOneObjectAtOffset, getRotation, getWorld, getWorldOfType, getX, getY, intersects, isAtEdge, isTouching, move, removeTouching, setImage, setImage, setLocation, setRotation, turn, turnTowards |

|  |
| --- |
| **Methods inherited from class java.lang.Object** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

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

### asaltante

public **asaltante**()

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

### act

public void **act**()

Este metodo incializa al asaltante por herencia de la clase obstaculo

**Overrides:**

act in class greenfoot.Actor

### avientabomba

public void **avientabomba**()

Este metodo es heradado por la clase bomba para que el asaltante suelte al azar una bomba contra el jugador

### creanumero

public int **creanumero**()

Este metodo inicializa un numero aleatorio para crear la bomba

## Class bomba

java.lang.Object

greenfoot.Actor

Obstaculos

asaltante

**bomba**

public class **bomba**extends asaltante

Write a description of class bomba here.

**Version:**

(a version number or a date)

**Author:**

(your name)

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| --- | --- |
| **Constructor Summary** | |
| [**bomba**](about:blankbomba.html#bomba())() |  |

|  |  |
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| **Method Summary** | |
| void | [**act**](about:blankbomba.html#act())()           crea una bomba aleatoriamente en el campo para que ataque al jugador |

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| --- |
| **Methods inherited from class asaltante** |
| avientabomba, creanumero |

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| --- |
| **Methods inherited from class Obstaculos** |
| actasaltante, actcarro, actroca |

|  |
| --- |
| **Methods inherited from class greenfoot.Actor** |
| addedToWorld, getImage, getIntersectingObjects, getNeighbours, getObjectsAtOffset, getObjectsInRange, getOneIntersectingObject, getOneObjectAtOffset, getRotation, getWorld, getWorldOfType, getX, getY, intersects, isAtEdge, isTouching, move, removeTouching, setImage, setImage, setLocation, setRotation, turn, turnTowards |

|  |
| --- |
| **Methods inherited from class java.lang.Object** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

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

### bomba

public **bomba**()

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

### act

public void **act**()

crea una bomba aleatoriamente en el campo para que ataque al jugador

**Overrides:**

act in class asaltante

## Class roca

java.lang.Object

greenfoot.Actor

Obstaculos

**roca**

public class **roca**extends Obstaculos

Write a description of class roca here.

**Version:**

(a version number or a date)

**Author:**

(your name)

|  |  |
| --- | --- |
| **Constructor Summary** | |
| [**roca**](about:blankroca.html#roca())() |  |

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| --- | --- |
| **Method Summary** | |
| void | [**act**](about:blankroca.html#act())()           Este metodo manda llamar al actor rocaen el mundo por herencia de la clase obstaculo |

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| --- |
| **Methods inherited from class Obstaculos** |
| actasaltante, actcarro, actroca |

|  |
| --- |
| **Methods inherited from class greenfoot.Actor** |
| addedToWorld, getImage, getIntersectingObjects, getNeighbours, getObjectsAtOffset, getObjectsInRange, getOneIntersectingObject, getOneObjectAtOffset, getRotation, getWorld, getWorldOfType, getX, getY, intersects, isAtEdge, isTouching, move, removeTouching, setImage, setImage, setLocation, setRotation, turn, turnTowards |

|  |
| --- |
| **Methods inherited from class java.lang.Object** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

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

### roca

public **roca**()

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

### act

public void **act**()

Este metodo manda llamar al actor rocaen el mundo por herencia de la clase obstaculo

**Overrides:**

act in class greenfoot.Actor

## Class Personaje

java.lang.Object

greenfoot.Actor

**Personaje**

public class **Personaje**extends greenfoot.Actor

Write a description of class Personaje here.

**Version:**

(a version number or a date)

**Author:**

(your name)

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| --- | --- |
| **Constructor Summary** | |
| [**Personaje**](about:blankPersonaje.html#Personaje())() |  |

|  |  |
| --- | --- |
| **Method Summary** | |
| int | [**iniciavidas**](about:blankPersonaje.html#iniciavidas())() |
| void | [**mover**](about:blankPersonaje.html#mover())()           Act - do whatever the Personaje wants to do. |

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| **Methods inherited from class greenfoot.Actor** |
| act, addedToWorld, getImage, getIntersectingObjects, getNeighbours, getObjectsAtOffset, getObjectsInRange, getOneIntersectingObject, getOneObjectAtOffset, getRotation, getWorld, getWorldOfType, getX, getY, intersects, isAtEdge, isTouching, move, removeTouching, setImage, setImage, setLocation, setRotation, turn, turnTowards |

|  |
| --- |
| **Methods inherited from class java.lang.Object** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

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

### Personaje

public **Personaje**()

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

### iniciavidas

public int **iniciavidas**()

### mover

public void **mover**()

Act - do whatever the Personaje wants to do. This method is called whenever the 'Act' or 'Run' button gets pressed in the environment.

## Class ciclista

java.lang.Object

greenfoot.Actor

Personaje

**ciclista**

public class **ciclista**extends Personaje

Write a description of class ciclista here.

**Version:**

(a version number or a date)

**Author:**

(your name)

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| --- | --- |
| **Constructor Summary** | |
| [**ciclista**](about:blankciclista.html#ciclista())() |  |

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| **Method Summary** | |
| void | [**act**](about:blankciclista.html#act())()           Act - do whatever the ciclista wants to do. |

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| **Methods inherited from class Personaje** |
| iniciavidas, mover |

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| **Methods inherited from class greenfoot.Actor** |
| addedToWorld, getImage, getIntersectingObjects, getNeighbours, getObjectsAtOffset, getObjectsInRange, getOneIntersectingObject, getOneObjectAtOffset, getRotation, getWorld, getWorldOfType, getX, getY, intersects, isAtEdge, isTouching, move, removeTouching, setImage, setImage, setLocation, setRotation, turn, turnTowards |

|  |
| --- |
| **Methods inherited from class java.lang.Object** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

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

### ciclista

public **ciclista**()

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

### act

public void **act**()

Act - do whatever the ciclista wants to do. This method is called whenever the 'Act' or 'Run' button gets pressed in the environment.

**Overrides:**

act in class greenfoot.Actor

## Class Vidas

java.lang.Object

greenfoot.Actor

Personaje

ciclista

**Vidas**

public class **Vidas**extends ciclista

Write a description of class Vidas here.

**Version:**

(a version number or a date)

**Author:**

(your name)

|  |  |
| --- | --- |
| **Constructor Summary** | |
| [**Vidas**](about:blankVidas.html#Vidas())() |  |

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| --- | --- |
| **Method Summary** | |
| void | [**disminuir**](about:blankVidas.html#disminuir())()           Esta Funcion detiene el juego si el jugador se queda sin vidas |

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| **Methods inherited from class ciclista** |
| act |

|  |
| --- |
| **Methods inherited from class Personaje** |
| iniciavidas, mover |

|  |
| --- |
| **Methods inherited from class greenfoot.Actor** |
| addedToWorld, getImage, getIntersectingObjects, getNeighbours, getObjectsAtOffset, getObjectsInRange, getOneIntersectingObject, getOneObjectAtOffset, getRotation, getWorld, getWorldOfType, getX, getY, intersects, isAtEdge, isTouching, move, removeTouching, setImage, setImage, setLocation, setRotation, turn, turnTowards |

|  |
| --- |
| **Methods inherited from class java.lang.Object** |
| clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait |

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

### Vidas

public **Vidas**()

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

### disminuir

public void **disminuir**()

Esta Funcion detiene el juego si el jugador se queda sin vidas