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# Chapter 1

## Package com.retroMachines.game.Map

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### 1.1 Class LambdaToMap

#### 1.1.1 Declaration

```
public class LambdaToMap
extends java.lang.Object
```

#### 1.1.2 Constructor summary

```
    LambdaToMap()
```

#### 1.1.3 Method summary

```
    getMapFromTerm(String)
```

#### 1.1.4 Constructors

- **LambdaToMap**  
    public **LambdaToMap**()

#### 1.1.5 Methods

- **getMapFromTerm**  
    public Map **getMapFromTerm**(java.lang.String lambda)



## 1.2 Class Map

### 1.2.1 Declaration

```
public class Map  
extends java.lang.Object
```

### 1.2.2 Constructor summary

Map()

### 1.2.3 Constructors

- Map  
public Map()

## Chapter 2

# Package com.retroMachines.data

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## 2.1 Class AssetManager

### 2.1.1 Declaration

```
public class AssetManager
extends com.badlogic.gdx.assets.AssetManager
```

### 2.1.2 Field summary

```
    manager
    menuSkin
```

### 2.1.3 Constructor summary

```
    AssetManager()
```

### 2.1.4 Method summary

```
    initialize() loads all relevant objects into the cache of the game for flawless drawing
    loadMap(int) Loads a map from the Storage based on it's id
    queueLoading()
    setMenuSkin()
    update()
```

### 2.1.5 Fields

- public static AssetManager **manager**

- `public static com.badlogic.gdx.scenes.scene2d.ui.Skin menuSkin`

### 2.1.6 Constructors

- **AssetManager**  
`public AssetManager()`

### 2.1.7 Methods

- **initialize**  
`public void initialize()`
  - **Description**  
loads all relevant objects into the cache of the game for flawless drawing
- **loadMap**  
`public static com.badlogic.gdx.maps.tiled.TiledMap loadMap(int levelId)`
  - **Description**  
Loads a map from the Storage based on it's id
  - **Parameters**
    - \* `levelId` – the id of the map to load
  - **Returns** – the map loaded as a TiledMap
- **queueLoading**  
`public static void queueLoading()`
- **setMenuSkin**  
`public static void setMenuSkin()`
- **update**  
`public synchronized boolean update()`

### 2.1.8 Members inherited from class AssetManager

`com.badlogic.gdx.assets.AssetManager`

- `public synchronized void clear()`
- `public synchronized boolean containsAsset(java.lang.Object arg0)`
- `public synchronized void dispose()`
- `public void finishLoading()`
- `public synchronized Object get(AssetDescriptor arg0)`
- `public synchronized Object get(java.lang.String arg0)`
- `public synchronized Object get(java.lang.String arg0, java.lang.Class arg1)`
- `public synchronized Array getAll(java.lang.Class arg0, com.badlogic.gdx.utils.Array arg1)`
- `public synchronized String getAssetFileName(java.lang.Object arg0)`
- `public synchronized Array getAssetNames()`
- `public synchronized Class getAssetType(java.lang.String arg0)`
- `public synchronized Array getDependencies(java.lang.String arg0)`
- `public synchronized String getDiagnostics()`
- `public synchronized int getLoadedAssets()`

- public AssetLoader getLoader(java.lang.Class arg0)
- public AssetLoader getLoader(java.lang.Class arg0, java.lang.String arg1)
- public Logger getLogger()
- public synchronized float getProgress()
- public synchronized int getQueuedAssets()
- public synchronized int getReferenceCount(java.lang.String arg0)
- public synchronized boolean isLoaded(java.lang.String arg0)
- public synchronized boolean isLoaded(java.lang.String arg0, java.lang.Class arg1)
- public synchronized void load(AssetDescriptor arg0)
- public synchronized void load(java.lang.String arg0, java.lang.Class arg1)
- public synchronized void load(java.lang.String arg0, java.lang.Class arg1, AssetLoaderParameters arg2)
- public synchronized void setErrorListener(AssetErrorListener arg0)
- public synchronized void setLoader(java.lang.Class arg0, loaders.AssetLoader arg1)
- public synchronized void setLoader(java.lang.Class arg0, java.lang.String arg1, loaders.AssetLoader arg2)
- public void setLogger(com.badlogic.gdx.utils.Logger arg0)
- public synchronized void setReferenceCount(java.lang.String arg0, int arg1)
- public synchronized void unload(java.lang.String arg0)
- public synchronized boolean update()
- public boolean update(int arg0)

## Chapter 3

# Package com.retroMachines.game

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### 3.1 Class Controller

#### 3.1.1 Declaration

```
public class Controller
extends java.lang.Object
```

#### 3.1.2 Constructor summary

```
Controller()
```

#### 3.1.3 Constructors

- Controller  
    public Controller()

## Chapter 4

# Package com.retroMachines.data.models

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### 4.1 Class Profile

#### 4.1.1 Declaration

```
public class Profile
extends java.lang.Object
```

#### 4.1.2 Constructor summary

**Profile(String, int, Setting, Statistic)** constructor for a new profile

#### 4.1.3 Method summary

```
getProfileId()
getProfileName()
getSetting()
setProfileId(int)
setProfileName(String)
setSetting(Setting)
```

#### 4.1.4 Constructors

- **Profile**

```
public Profile(java.lang.String name, int profileId, Setting setting,  
Statistic statistic)
```

- **Description**

constructor for a new profile

- **Parameters**

- \* **name** – Name of the profile
    - \* **profileId** – Id of the profile
    - \* **setting** – settings of the profile
    - \* **statistic** – statistics of the profile

#### 4.1.5 Methods

- **getProfileId**

```
public int getProfileId()
```

- **Returns** – the Id of the profile

- **getProfileName**

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

- **Returns** – the name of the profile

- **getSetting**

```
public Setting getSetting()
```

- **Returns** – the setting

- **setProfileId**

```
public void setProfileId(int profileId)
```

- **Parameters**

- \* **profileId** – new Id of the profile

- **setProfileName**

```
public void setProfileName(java.lang.String profileName)
```

- **Parameters**

- \* **profileName** – new name of the profile

- **setSetting**

```
public void setSetting(Setting setting)
```

- **Parameters**

- \* **setting** – the setting to set

## 4.2 Class Setting

### 4.2.1 Declaration

```
public class Setting
extends java.lang.Object
```

### 4.2.2 Constructor summary

**Setting(boolean, boolean, float)**

### 4.2.3 Method summary

```
getVolume()
isLeftControl()
isSoundOnOff()
setLeftControl(boolean)
setSoundOnOff(boolean)
setVolume(float)
```

### 4.2.4 Constructors

- **Setting**  
`public Setting(boolean leftControl, boolean soundOnOff, float volume)`

### 4.2.5 Methods

- **getVolume**  
`public float getVolume()`
  - **Returns** – the volume
- **isLeftControl**  
`public boolean isLeftControl()`
  - **Returns** – the leftControl
- **isSoundOnOff**  
`public boolean isSoundOnOff()`
  - **Returns** – the soundOnOff
- **setLeftControl**  
`public void setLeftControl(boolean leftControl)`
  - **Parameters**
    - \* `leftControl` – the leftControl to set
- **setSoundOnOff**  
`public void setSoundOnOff(boolean soundOnOff)`



- **Parameters**

- \* `soundOnOff` – the `soundOnOff` to set

- **setVolume**

- `public void setVolume(float volume)`

- **Parameters**

- \* `volume` – the volume to set

## 4.3 Class Statistic

### 4.3.1 Declaration

```
public class Statistic
extends java.lang.Object
```

### 4.3.2 Constructor summary

**Statistic(int, int, int)** creates a new instance of `Statistic` and assigns all the variables to the instance

### 4.3.3 Method summary

```
getLevelsComplete()
getPlaytime()
getStepCounter()
setLevelsComplete(int)
setPlaytime(int)
setStepCounter(int)
```

### 4.3.4 Constructors

- **Statistic**

- `public Statistic(int playtime, int levelsComplete, int stepCounter)`

- **Description**

- creates a new instance of `Statistic` and assigns all the variables to the instance

- **Parameters**

- \* `playtime` –
  - \* `levelsComplete` –
  - \* `stepCounter` –

### 4.3.5 Methods

- **getLevelsComplete**

- `public int getLevelsComplete()`

- **getPlaytime**  
public int getPlaytime()
- **getStepCounter**  
public int getStepCounter()
- **setLevelsComplete**  
public void setLevelsComplete(int levelsComplete)
- **setPlaytime**  
public void setPlaytime(int playtime)
- **setStepCounter**  
public void setStepCounter(int stepCounter)

## Chapter 5

# Package com.retroMachines.ui.screens

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### 5.1 Class AbstractScreen

Abstrakte Screen Klasse auf die alle Anzeigen des Spiels handhabt.

#### 5.1.1 Declaration

```
public abstract class AbstractScreen
extends java.lang.Object
implements com.badlogic.gdx.Screen
```

#### 5.1.2 All known subclasses

EvaluationScreen (in [7.1](#), page [24](#)), GameScreen (in [7.2](#), page [25](#)), ProfileMenuScreen (in [8.10](#), page [33](#)), AboutMenuScreen (in [8.1](#), page [28](#)), CreateFirstProfileMenuScreen (in [8.3](#), page [29](#)), SettingsMenuScreen (in [8.12](#), page [34](#)), CreateProfileMenuScreen (in [8.4](#), page [29](#)), ProfileManagementMenuScreen (in [8.9](#), page [33](#)), AchievementsMenuScreen (in [8.2](#), page [28](#)), LoadMenuScreen (in [8.6](#), page [31](#)), LevelMenuScreen (in [8.5](#), page [30](#)), MenuScreen (in [8.8](#), page [32](#)), MainMenuScreen (in [8.7](#), page [31](#)), StageMenuScreen (in [8.13](#), page [35](#)), ProfileSettingsMenuScreen (in [8.11](#), page [34](#))

#### 5.1.3 Constructor summary

**AbstractScreen(RetroMachines)**

#### 5.1.4 Method summary

```
dispose()
hide()
pause()
render(float) Renders the Stage to the Screen.
resize(int, int)
resume()
show()
```

#### 5.1.5 Constructors

- **AbstractScreen**  
`public AbstractScreen(com.retroMachines.RetroMachines game)`

#### 5.1.6 Methods

- **dispose**  
`void dispose()`
- **hide**  
`void hide()`
- **pause**  
`void pause()`
- **render**  
`public void render(float delta)`
  - **Description**  
Renders the Stage to the Screen.
- **resize**  
`void resize(int arg0, int arg1)`
- **resume**  
`void resume()`
- **show**  
`void show()`

## 5.2 Class AndroidCamera

### 5.2.1 Declaration

```
public class AndroidCamera
extends com.badlogic.gdx.graphics.OrthographicCamera
```

### 5.2.2 Constructor summary

`AndroidCamera(int, int)`

### 5.2.3 Constructors

- `AndroidCamera`  
`public AndroidCamera(int width, int height)`

### 5.2.4 Members inherited from class `OrthographicCamera`

```
com.badlogic.gdx.graphics.OrthographicCamera
• public void rotate(float arg0)
• public void setToOrtho(boolean arg0)
• public void setToOrtho(boolean arg0, float arg1, float arg2)
• public void translate(float arg0, float arg1)
• public void translate(com.badlogic.gdx.math.Vector2 arg0)
• public void update()
• public void update(boolean arg0)
• public zoom
```

### 5.2.5 Members inherited from class `Camera`

```
com.badlogic.gdx.graphics.Camera
• public final combined
• public final direction
• public far
• public final frustum
• public Ray getPickRay(float arg0, float arg1)
• public Ray getPickRay(float arg0, float arg1, float arg2, float arg3, float
  arg4, float arg5)
• public final invProjectionView
• public void lookAt(float arg0, float arg1, float arg2)
• public void lookAt(com.badlogic.gdx.math.Vector3 arg0)
• public near
• public void normalizeUp()
• public final position
• public Vector3 project(com.badlogic.gdx.math.Vector3 arg0)
• public Vector3 project(com.badlogic.gdx.math.Vector3 arg0, float arg1, float
  arg2, float arg3, float arg4)
• public final projection
• public void rotate(float arg0, float arg1, float arg2, float arg3)
• public void rotate(com.badlogic.gdx.math.Matrix4 arg0)
• public void rotate(com.badlogic.gdx.math.Quaternion arg0)
• public void rotate(com.badlogic.gdx.math.Vector3 arg0, float arg1)
• public void rotateAround(com.badlogic.gdx.math.Vector3 arg0,
  com.badlogic.gdx.math.Vector3 arg1, float arg2)
• public void transform(com.badlogic.gdx.math.Matrix4 arg0)
• public void translate(float arg0, float arg1, float arg2)
• public void translate(com.badlogic.gdx.math.Vector3 arg0)
• public Vector3 unproject(com.badlogic.gdx.math.Vector3 arg0)
• public Vector3 unproject(com.badlogic.gdx.math.Vector3 arg0, float arg1, float
  arg2, float arg3, float arg4)
• public final up
• public abstract void update()
• public abstract void update(boolean arg0)
• public final view
• public viewportHeight
• public viewportWidth
```

## Chapter 6

# Package com.retroMachines

<i>Package Contents</i>	<i>Page</i>
Classes	
RetroMachines .....	<a href="#">22</a>

### 6.1 Class RetroMachines

#### 6.1.1 Declaration

```
public class RetroMachines
extends com.badlogic.gdx.Game
```

#### 6.1.2 Field summary

```
HEIGHT
WIDTH
```

#### 6.1.3 Constructor summary

```
RetroMachines()
```

#### 6.1.4 Method summary

```
create()
getProfileController()
getSettingController()
```

#### 6.1.5 Fields

- public static final int **WIDTH**
- public static final int **HEIGHT**

### 6.1.6 Constructors

- **RetroMachines**  
`public RetroMachines()`

### 6.1.7 Methods

- **create**  
`public void create()`
- **getProfileController**  
`public game.controllers.ProfileController getProfileController()`
- **getSettingController**  
`public game.controllers.SettingController getSettingController()`

### 6.1.8 Members inherited from class Game

`com.badlogic.gdx.Game`

- `public void dispose()`
- `public Screen getScreen()`
- `public void pause()`
- `public void render()`
- `public void resize(int arg0, int arg1)`
- `public void resume()`
- `public void setScreen(Screen arg0)`

## Chapter 7

# Package com.retroMachines.ui.screens.game

<i>Package Contents</i>	<i>Page</i>
Classes	
EvaluationScreen.....	<a href="#">24</a>
GameScreen.....	<a href="#">25</a>

### 7.1 Class EvaluationScreen

#### 7.1.1 Declaration

```
public class EvaluationScreen
extends com.retroMachines.ui.screens.AbstractScreen (in 5.1, page 19)
```

#### 7.1.2 Constructor summary

```
    EvaluationScreen(RetroMachines, GameController)
```

#### 7.1.3 Constructors

- EvaluationScreen

```
    public EvaluationScreen(com.retroMachines.RetroMachines game,
                            com.retroMachines.game.controllers.GameController gameController)
```

#### 7.1.4 Members inherited from class AbstractScreen

```
com.retroMachines.ui.screens.AbstractScreen (in 5.1, page 19)
```

- public void dispose()
- public void hide()
- public void pause()
- public void render(float delta)



- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 7.2 Class `GameScreen`

### 7.2.1 Declaration

`public class GameScreen`  
`extends com.retroMachines.ui.screens.AbstractScreen` (in [5.1](#), page [19](#))

### 7.2.2 Constructor summary

`GameScreen(RetroMachines, GameController)`

### 7.2.3 Method summary

`dispose()`  
`render(float)`  
`setMap(TiledMap)`

### 7.2.4 Constructors

- **GameScreen**  
`public GameScreen(com.retroMachines.RetroMachines game,`  
`com.retroMachines.game.controllers.GameController gameController)`

### 7.2.5 Methods

- **dispose**  
`void dispose()`
- **render**  
`public void render(float delta)`
  - Description copied from `com.retroMachines.ui.screens.AbstractScreen` (in [5.1](#), page [19](#))  
Renders the Stage to the Screen.
- **setMap**  
`public void setMap(com.badlogic.gdx.maps.tiled.TiledMap map)`

### 7.2.6 Members inherited from class `AbstractScreen`

`com.retroMachines.ui.screens.AbstractScreen` (in [5.1](#), page [19](#))

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`

- `public void resume()`
- `public void show()`

## Chapter 8

# Package com.retroMachines.ui.screens.menus

<i>Package Contents</i>	<i>Page</i>
<b>Classes</b>	
<b>AboutMenuScreen</b> .....	<a href="#">28</a>
<b>AchievementsMenuScreen</b> .....	<a href="#">28</a>
<b>CreateFirstProfileMenuScreen</b> .....	<a href="#">29</a>
<b>CreateProfileMenuScreen</b> .....	<a href="#">29</a>
<b>LevelMenuScreen</b> .....	<a href="#">30</a>
<b>LoadMenuScreen</b> .....	<a href="#">31</a>
<b>MainMenuScreen</b> .....	<a href="#">31</a>
<b>MenuScreen</b> .....	<a href="#">32</a>
abstrakte MenuScreen klasse die die grundstzliche Struktur eines Mens widerspiegelt.	
<b>ProfileManagementMenuScreen</b> .....	<a href="#">33</a>
<b>ProfileMenuScreen</b> .....	<a href="#">33</a>
<b>ProfileSettingsMenuScreen</b> .....	<a href="#">34</a>
<b>SettingsMenuScreen</b> .....	<a href="#">34</a>
<b>StageMenuScreen</b> .....	<a href="#">35</a>

## 8.1 Class `AboutMenuScreen`

### 8.1.1 Declaration

`public class AboutMenuScreen`

**extends** `com.retroMachines.ui.screens.AbstractScreen` (in [5.1](#), page [19](#))

### 8.1.2 Constructor summary

`AboutMenuScreen(RetroMachines)`

### 8.1.3 Method summary

`show()`

### 8.1.4 Constructors

- `AboutMenuScreen`

`public AboutMenuScreen(com.retroMachines.RetroMachines game)`

### 8.1.5 Methods

- `show`

`void show()`

### 8.1.6 Members inherited from class `AbstractScreen`

`com.retroMachines.ui.screens.AbstractScreen` (in [5.1](#), page [19](#))

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 8.2 Class `AchievementsMenuScreen`

### 8.2.1 Declaration

`public class AchievementsMenuScreen`

**extends** `com.retroMachines.ui.screens.menus.MenuScreen` (in [8.8](#), page [32](#))

### 8.2.2 Constructor summary

`AchievementsMenuScreen(RetroMachines)`

### 8.2.3 Constructors

- **AchievementsMenuScreen**  
`public AchievementsMenuScreen(com.retroMachines.RetroMachines game)`

### 8.2.4 Members inherited from class AbstractScreen

`com.retroMachines.ui.screens.AbstractScreen` (in 5.1, page 19)

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 8.3 Class CreateFirstProfileMenuScreen

### 8.3.1 Declaration

`public class CreateFirstProfileMenuScreen`  
`extends com.retroMachines.ui.screens.menus.MenuScreen` (in 8.8, page 32)

### 8.3.2 Constructor summary

`CreateFirstProfileMenuScreen(RetroMachines)`

### 8.3.3 Constructors

- **CreateFirstProfileMenuScreen**  
`public CreateFirstProfileMenuScreen(com.retroMachines.RetroMachines game)`

### 8.3.4 Members inherited from class AbstractScreen

`com.retroMachines.ui.screens.AbstractScreen` (in 5.1, page 19)

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 8.4 Class CreateProfileMenuScreen

### 8.4.1 Declaration

`public class CreateProfileMenuScreen`  
`extends com.retroMachines.ui.screens.menus.MenuScreen` (in 8.8, page 32)

### 8.4.2 Constructor summary

**CreateProfileMenuScreen(RetroMachines)**

### 8.4.3 Constructors

- **CreateProfileMenuScreen**

`public CreateProfileMenuScreen(com.retroMachines.RetroMachines game)`

### 8.4.4 Members inherited from class AbstractScreen

`com.retroMachines.ui.screens.AbstractScreen` (in 5.1, page 19)

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 8.5 Class LevelMenuScreen

### 8.5.1 Declaration

`public class LevelMenuScreen`

**extends** `com.retroMachines.ui.screens.menus.MenuScreen` (in 8.8, page 32)

### 8.5.2 Constructor summary

**LevelMenuScreen(RetroMachines)**

### 8.5.3 Constructors

- **LevelMenuScreen**

`public LevelMenuScreen(com.retroMachines.RetroMachines game)`

### 8.5.4 Members inherited from class AbstractScreen

`com.retroMachines.ui.screens.AbstractScreen` (in 5.1, page 19)

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 8.6 Class `LoadMenuScreen`

### 8.6.1 Declaration

```
public class LoadMenuScreen
extends com.retroMachines.ui.screens.AbstractScreen (in 5.1, page 19)
```

### 8.6.2 Constructor summary

```
LoadMenuScreen(RetroMachines)
```

### 8.6.3 Method summary

```
show()
```

### 8.6.4 Constructors

- **LoadMenuScreen**  
`public LoadMenuScreen(com.retroMachines.RetroMachines game)`

### 8.6.5 Methods

- **show**  
`void show()`

### 8.6.6 Members inherited from class `AbstractScreen`

```
com.retroMachines.ui.screens.AbstractScreen (in 5.1, page 19)
```

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 8.7 Class `MainMenuScreen`

### 8.7.1 Declaration

```
public class MainMenuScreen
extends com.retroMachines.ui.screens.menus.MenuScreen (in 8.8, page 32)
```

### 8.7.2 Constructor summary

```
MainMenuScreen(RetroMachines)
```

### 8.7.3 Method summary

```
show()
```

#### 8.7.4 Constructors

- **MainMenuScreen**  
`public MainMenuScreen(com.retroMachines.RetroMachines game)`

#### 8.7.5 Methods

- **show**  
`void show()`

#### 8.7.6 Members inherited from class `AbstractScreen`

`com.retroMachines.ui.screens.AbstractScreen` (in 5.1, page 19)

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

### 8.8 Class `MenuScreen`

abstrakte `MenuScreen` klasse die die grundstzliche Struktur eines Mens widerspiegelt.

#### 8.8.1 Declaration

`public abstract class MenuScreen`  
**extends** `com.retroMachines.ui.screens.AbstractScreen` (in 5.1, page 19)

#### 8.8.2 All known subclasses

`ProfileMenuScreen` (in 8.10, page 33), `CreateFirstProfileMenuScreen` (in 8.3, page 29), `SettingsMenuScreen` (in 8.12, page 34), `CreateProfileMenuScreen` (in 8.4, page 29), `ProfileManagementMenuScreen` (in 8.9, page 33), `AchievementsMenuScreen` (in 8.2, page 28), `LevelMenuScreen` (in 8.5, page 30), `MainMenuScreen` (in 8.7, page 31), `StageMenuScreen` (in 8.13, page 35), `ProfileSettingsMenuScreen` (in 8.11, page 34)

#### 8.8.3 Constructor summary

`MenuScreen(RetroMachines)`

#### 8.8.4 Constructors

- **MenuScreen**  
`public MenuScreen(com.retroMachines.RetroMachines game)`



### 8.8.5 Members inherited from class `AbstractScreen`

`com.retroMachines.ui.screens.AbstractScreen` (in 5.1, page 19)

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 8.9 Class `ProfileManagementMenuScreen`

### 8.9.1 Declaration

`public class ProfileManagementMenuScreen`

**extends** `com.retroMachines.ui.screens.menus.MenuScreen` (in 8.8, page 32)

### 8.9.2 Constructor summary

**`ProfileManagementMenuScreen(RetroMachines)`**

### 8.9.3 Constructors

- **`ProfileManagementMenuScreen`**  
`public ProfileManagementMenuScreen(com.retroMachines.RetroMachines game)`

### 8.9.4 Members inherited from class `AbstractScreen`

`com.retroMachines.ui.screens.AbstractScreen` (in 5.1, page 19)

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 8.10 Class `ProfileMenuScreen`

### 8.10.1 Declaration

`public class ProfileMenuScreen`

**extends** `com.retroMachines.ui.screens.menus.MenuScreen` (in 8.8, page 32)

### 8.10.2 Constructor summary

**`ProfileMenuScreen(RetroMachines)`**

### 8.10.3 Constructors

- **ProfileMenuScreen**

`public ProfileMenuScreen(com.retroMachines.RetroMachines game)`

### 8.10.4 Members inherited from class AbstractScreen

`com.retroMachines.ui.screens.AbstractScreen` (in 5.1, page 19)

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 8.11 Class ProfileSettingsMenuScreen

### 8.11.1 Declaration

`public class ProfileSettingsMenuScreen`

`extends com.retroMachines.ui.screens.menus.MenuScreen` (in 8.8, page 32)

### 8.11.2 Constructor summary

`ProfileSettingsMenuScreen(RetroMachines)`

### 8.11.3 Constructors

- **ProfileSettingsMenuScreen**

`public ProfileSettingsMenuScreen(com.retroMachines.RetroMachines game)`

### 8.11.4 Members inherited from class AbstractScreen

`com.retroMachines.ui.screens.AbstractScreen` (in 5.1, page 19)

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 8.12 Class SettingsMenuScreen

### 8.12.1 Declaration

`public class SettingsMenuScreen`

`extends com.retroMachines.ui.screens.menus.MenuScreen` (in 8.8, page 32)

### 8.12.2 Constructor summary

**SettingsMenuScreen(RetroMachines)**

### 8.12.3 Constructors

- **SettingsMenuScreen**

`public SettingsMenuScreen(com.retroMachines.RetroMachines game)`

### 8.12.4 Members inherited from class AbstractScreen

`com.retroMachines.ui.screens.AbstractScreen` (in [5.1](#), page [19](#))

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## 8.13 Class StageMenuScreen

### 8.13.1 Declaration

`public class StageMenuScreen`

**extends** `com.retroMachines.ui.screens.menus.MenuScreen` (in [8.8](#), page [32](#))

### 8.13.2 Constructor summary

**StageMenuScreen(RetroMachines)**

### 8.13.3 Constructors

- **StageMenuScreen**

`public StageMenuScreen(com.retroMachines.RetroMachines game)`

### 8.13.4 Members inherited from class AbstractScreen

`com.retroMachines.ui.screens.AbstractScreen` (in [5.1](#), page [19](#))

- `public void dispose()`
- `public void hide()`
- `public void pause()`
- `public void render(float delta)`
- `public void resize(int width, int height)`
- `public void resume()`
- `public void show()`

## Chapter 9

# Package com.retroMachines.lambda

<i>Package Contents</i>	<i>Page</i>
<b>Classes</b>	
<b>Abstraction</b> .....	<a href="#">36</a>
<b>Application</b> .....	<a href="#">37</a>
<b>Tree</b> .....	<a href="#">37</a>
<b>Variable</b> .....	<a href="#">39</a>
<b>Vertex</b> .....	<a href="#">39</a>

### 9.1 Class Abstraction

#### 9.1.1 Declaration

```
public class Abstraction
extends com.retroMachines.lambda.Vertex (in 9.5, page 39)
```

#### 9.1.2 Constructor summary

```
    Abstraction(Tree, Variable)
```

#### 9.1.3 Method summary

```
    toString()
```

#### 9.1.4 Constructors

- **Abstraction**  
    public Abstraction(Tree tree, Variable var)

### 9.1.5 Methods

- **toString**  
public java.lang.String toString()

### 9.1.6 Members inherited from class Vertex

com.retroMachines.lambda.Vertex (in 9.5, page 39)

- public boolean setEdge(Vertex v)
- public abstract String toString()

## 9.2 Class Application

### 9.2.1 Declaration

public class Application  
extends com.retroMachines.lambda.Vertex (in 9.5, page 39)

### 9.2.2 Constructor summary

Application(Tree, Tree)

### 9.2.3 Method summary

toString()

### 9.2.4 Constructors

- **Application**  
public Application(Tree t1, Tree t2)

### 9.2.5 Methods

- **toString**  
public java.lang.String toString()

### 9.2.6 Members inherited from class Vertex

com.retroMachines.lambda.Vertex (in 9.5, page 39)

- public boolean setEdge(Vertex v)
- public abstract String toString()

## 9.3 Class Tree

### 9.3.1 Declaration

public class Tree  
extends java.lang.Object

### 9.3.2 Constructor summary

**Tree(String)** creates Tree representation of given lambda-term in string representation

**Tree(Vertex)**

### 9.3.3 Method summary

**alphaConversion(Variable)** fulfills alphConversion on given variable.

**betaReduction()** fulfills one step of beta-reduction

**toString()**

### 9.3.4 Constructors

- **Tree**  
`public Tree(java.lang.String term)`
  - **Description**  
 creates Tree representation of given lambda-term in string representation
  - **Parameters**  
    - \* `term` – string representation of labmda-term
- **Tree**  
`public Tree(Vertex start)`

### 9.3.5 Methods

- **alphaConversion**  
`public Variable alphaConversion(Variable var)`
  - **Description**  
 fulfills alphConversion on given variable. Creates new unique variable and replaces every appearance of var in lambda-term where needed. New Variable will be returned
  - **Parameters**  
    - \* `var` – variable to change
  - **Returns** – new created variable
- **betaReduction**  
`public boolean betaReduction()`
  - **Description**  
 fulfills one step of beta-reduction
  - **Returns** – true if this tree has changed, false otherwise
- **toString**  
`public java.lang.String toString()`

## 9.4 Class Variable

### 9.4.1 Declaration

```
public class Variable  
extends com.retroMachines.lambda.Vertex (in 9.5, page 39)
```

### 9.4.2 Constructor summary

```
Variable(char)
```

### 9.4.3 Method summary

```
getId()  
toString()
```

### 9.4.4 Constructors

- **Variable**  
public Variable(char id)

### 9.4.5 Methods

- **getId**  
public int getId()
- **toString**  
public java.lang.String toString()

### 9.4.6 Members inherited from class Vertex

```
com.retroMachines.lambda.Vertex (in 9.5, page 39)  
• public boolean setEdge(Vertex v)  
• public abstract String toString()
```

## 9.5 Class Vertex

### 9.5.1 Declaration

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

### 9.5.2 All known subclasses

Application (in 9.2, page 37), Abstraction (in 9.1, page 36), Variable (in 9.4, page 39)

### 9.5.3 Constructor summary

```
Vertex()
```

#### 9.5.4 Method summary

```
setEdge(Vertex)  
toString()
```

#### 9.5.5 Constructors

- **Vertex**  
`public Vertex()`

#### 9.5.6 Methods

- **setEdge**  
`public boolean setEdge(Vertex v)`
- **toString**  
`public java.lang.String toString()`



## Chapter 10

# Package com.retroMachines.lambda.test

<i>Package Contents</i>	<i>Page</i>
<b>Classes</b>	
<b>AbstractTerm</b> .....	<a href="#">41</a>
<b>Main</b> .....	<a href="#">42</a>
<b>Term1</b> .....	<a href="#">42</a>
Es soll der gegebene Ausdruck mittels der Lambda-Datenstruktur repräsentiert werden.	
<b>Term2</b> .....	<a href="#">43</a>

### 10.1 Class AbstractTerm

#### 10.1.1 Declaration

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

#### 10.1.2 All known subclasses

Term2 (in [10.4](#), page [43](#)), Term1 (in [10.3](#), page [42](#))

#### 10.1.3 Constructor summary

```
AbstractTerm()
```

#### 10.1.4 Method summary

```
toString()
```

### 10.1.5 Constructors

- **AbstractTerm**  
`public AbstractTerm()`

### 10.1.6 Methods

- **toString**  
`public java.lang.String toString()`

## 10.2 Class Main

### 10.2.1 Declaration

```
public class Main
extends java.lang.Object
```

### 10.2.2 Constructor summary

```
Main()
```

### 10.2.3 Method summary

```
main(String[])
```

### 10.2.4 Constructors

- **Main**  
`public Main()`

### 10.2.5 Methods

- **main**  
`public static void main(java.lang.String[] args)`

## 10.3 Class Term1

Es soll der gegebene Ausdruck mittels der Lambda-Datenstruktur repräsentiert werden. Hier geschieht das von Hand, soll aber später von einem Parser übernommen werden.

### 10.3.1 Declaration

```
public class Term1
extends com.retroMachines.lambda.test.AbstractTerm (in 10.1, page 41)
```

### 10.3.2 Constructor summary

```
Term1()
```

### 10.3.3 Constructors

- **Term1**  
public Term1()

### 10.3.4 Members inherited from class AbstractTerm

com.retroMachines.lambda.test.AbstractTerm (in [10.1](#), page [41](#))

- public String toString()

## 10.4 Class Term2

### 10.4.1 Declaration

public class Term2

**extends** com.retroMachines.lambda.test.AbstractTerm (in [10.1](#), page [41](#))

### 10.4.2 Constructor summary

Term2()

### 10.4.3 Constructors

- **Term2**  
public Term2()

### 10.4.4 Members inherited from class AbstractTerm

com.retroMachines.lambda.test.AbstractTerm (in [10.1](#), page [41](#))

- public String toString()

# Chapter 11

## Package com.retroMachines.util

<i>Package Contents</i>	<i>Page</i>
Classes	
<b>Constants</b> .....	<a href="#">44</a>

### 11.1 Class Constants

#### 11.1.1 Declaration

```
public class Constants
extends java.lang.Object
```

#### 11.1.2 Constructor summary

```
    Constants()
```

#### 11.1.3 Constructors

- **Constants**  
    **public Constants**()

## Chapter 12

# Package com.retroMachines.game.controllers

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GameController This class represents the controller for the actual game.	
<b>ProfileController</b> ..... 46	
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### 12.1 Class GameController

GameController This class represents the controller for the actual game. It sets up levels and also disposes them afterwards. It saves progress to the persistent storage.

#### 12.1.1 Declaration

```
public class GameController  
extends java.lang.Object
```

#### 12.1.2 Constructor summary

**GameController(RetroMachines)**

#### 12.1.3 Method summary

**getRetroMan()**  
**jumpRetroMan()**  
**levelFinished()** this method will be called

**startLevel(int)** sets initializes a given level and fires it up

#### 12.1.4 Constructors

- **GameController**  
`public GameController(com.retroMachines.RetroMachines game)`

#### 12.1.5 Methods

- **getRetroMan**  
`public com.retroMachines.game.gameelements.RetroMan getRetroMan()`
- **jumpRetroMan**  
`public void jumpRetroMan()`
- **levelFinished**  
`public void levelFinished()`
  - **Description**  
this method will be called
- **startLevel**  
`public void startLevel(int levelId)`
  - **Description**  
sets initializes a given level and fires it up
  - **Parameters**  
    - \* `levelId` – the level to be started

## 12.2 Class ProfileController

### 12.2.1 Declaration

```
public class ProfileController
extends java.lang.Object
```

### 12.2.2 Field summary

**MAX\_PROFILE\_NUMBER** the amount of profiles allowed in the game

### 12.2.3 Constructor summary

**ProfileController(RetroMachines)** creates a new instance of the profile controller

### 12.2.4 Method summary

**changeActiveProfile(String)** changes to the current profile to another profile  
**deleteCurrentProfile()** removes the currently active profile  
**getProfile()**  
**getProfileName()** Get the name of the currently active user  
**isValidUsername(String)** checks if a given username is valid, meaning it is not occupied by another profile already

### 12.2.5 Fields

- **public static final int MAX\_PROFILE\_NUMBER**
  - the amount of profiles allowed in the game

### 12.2.6 Constructors

- **ProfileController**  
**public ProfileController(com.retroMachines.RetroMachines game)**
  - **Description**  
creates a new instance of the profile controller
  - **Parameters**
    - \* **game** – the game for calls towards the game

### 12.2.7 Methods

- **changeActiveProfile**  
**public void changeActiveProfile(java.lang.String profileName)**
  - **Description**  
changes to the current profile to another profile
  - **Parameters**
    - \* **profileName** – the name of the profile
- **deleteCurrentProfile**  
**public void deleteCurrentProfile()**
  - **Description**  
removes the currently active profile
- **getProfile**  
**public com.retroMachines.data.models.Profile getProfile()**
  - **Returns** – the profile
- **getProfileName**  
**public java.lang.String getProfileName()**

- **Description**  
Get the name of the currently active user
- **Returns** – The name of the currently active user; Empty String if no user is active.
- **isValidUsername**  
`public boolean isValidUsername(java.lang.String username)`
  - **Description**  
checks if a given username is valid, meaning it is not occupied by another profile already

## 12.3 Class SettingController

### 12.3.1 Declaration

```
public class SettingController  
extends java.lang.Object
```

### 12.3.2 Constructor summary

```
SettingController(RetroMachines)
```

### 12.3.3 Constructors

- **SettingController**  
`public SettingController(com.retroMachines.RetroMachines game)`

## 12.4 Class StatisticController

### 12.4.1 Declaration

```
public class StatisticController  
extends java.lang.Object
```

### 12.4.2 Constructor summary

```
StatisticController()
```

### 12.4.3 Constructors

- **StatisticController**  
`public StatisticController()`



## Chapter 13

# Package com.retroMachines.game.gameelements

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<b>MachineElement</b> .....	<a href="#">51</a>
<b>MetalElement</b> .....	<a href="#">51</a>
<b>RetroMan</b> .....	<a href="#">52</a>

### 13.1 Class GameElement

#### 13.1.1 Declaration

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

#### 13.1.2 All known subclasses

MachineElement (in [13.3](#), page [51](#)), MetalElement (in [13.4](#), page [51](#)), LightElement (in [13.2](#), page [50](#))

#### 13.1.3 Constructor summary

```
GameElement()
```

### 13.1.4 Method summary

`render(float)`

### 13.1.5 Constructors

- **GameElement**  
`public GameElement()`

### 13.1.6 Methods

- **render**  
`public abstract void render(float deltaTime)`

## 13.2 Class **LightElement**

### 13.2.1 Declaration

`public class LightElement`

**extends** `com.retroMachines.game.gameelements.GameElement` (in [13.1](#), page [49](#))

### 13.2.2 Constructor summary

`LightElement()`

### 13.2.3 Method summary

`render(float)`

### 13.2.4 Constructors

- **LightElement**  
`public LightElement()`

### 13.2.5 Methods

- **render**  
`public abstract void render(float deltaTime)`

### 13.2.6 Members inherited from class **GameElement**

`com.retroMachines.game.gameelements.GameElement` (in [13.1](#), page [49](#))

- `public abstract void render(float deltaTime)`

## 13.3 Class MachineElement

### 13.3.1 Declaration

`public class MachineElement`

**extends** `com.retroMachines.game.gameelements.GameElement` (in [13.1](#), page [49](#))

### 13.3.2 Constructor summary

`MachineElement()`

### 13.3.3 Method summary

`render(float)`

### 13.3.4 Constructors

- **MachineElement**  
`public MachineElement()`

### 13.3.5 Methods

- **render**  
`public abstract void render(float deltaTime)`

### 13.3.6 Members inherited from class GameElement

`com.retroMachines.game.gameelements.GameElement` (in [13.1](#), page [49](#))

- `public abstract void render(float deltaTime)`

## 13.4 Class MetalElement

### 13.4.1 Declaration

`public class MetalElement`

**extends** `com.retroMachines.game.gameelements.GameElement` (in [13.1](#), page [49](#))

### 13.4.2 Constructor summary

`MetalElement()`

### 13.4.3 Method summary

`render(float)`

### 13.4.4 Constructors

- **MetalElement**  
`public MetalElement()`

### 13.4.5 Methods

- **render**  
public abstract void **render**(float **deltaTime**)

### 13.4.6 Members inherited from class GameElement

com.retroMachines.game.gameelements.GameElement (in 13.1, page 49)

- public abstract void **render**(float **deltaTime**)

## 13.5 Class RetroMan

### 13.5.1 Declaration

```
public class RetroMan
extends java.lang.Object
```

### 13.5.2 Field summary

**HEIGHT**  
**WIDTH**

### 13.5.3 Constructor summary

**RetroMan()**

### 13.5.4 Method summary

**canJump()**  
**getPos()**  
**hasPickedUpElement()**  
**jump()**  
**landed()** Call this method when the character is supposed to jump  
**pickupElement(GameElement)**  
**render(float)**

### 13.5.5 Fields

- public static final float **WIDTH**
- public static final float **HEIGHT**

### 13.5.6 Constructors

- **RetroMan**  
public **RetroMan()**

### 13.5.7 Methods

- **canJump**  
`public boolean canJump()`
- **getPos**  
`public com.badlogic.gdx.math.Vector2 getPos()`
- **hasPickedUpElement**  
`public boolean hasPickedUpElement()`
  - **Returns** –
- **jump**  
`public void jump()`
- **landed**  
`public void landed()`
  - **Description**  
Call this method when the character is supposed to jump
- **pickupElement**  
`public void pickupElement(GameElement element)`
  - **Parameters**
    - \* `element` –
- **render**  
`public com.badlogic.gdx.graphics.g2d.TextureRegion render(float deltaTime)`
  - **Parameters**
    - \* `deltaTime` –