Software-Engineering-Project-2-Assignment1

Assignment1

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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    scrabble.exceptions.InvalidFrameException 8
    scrabble.exceptions.InvalidPlayerNameException 8
    scrabble.exceptions.InvalidPlayerScoreException 9
    scrabble.exceptions.InvalidTileException 9
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scrabble.Player 10
scrabble.Pool 13
scrabble.PoolTest 16
scrabble.Tile 16
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Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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scrabble.exceptions.InvalidFrameException 8
scrabble.exceptions.InvalidPlayerNameException 8
scrabble.exceptions.InvalidPlayerScoreException 9
scrabble.exceptions.InvalidPoolException 9
scrabble.exceptions.InvalidTileException 9
scrabble.Main 10
scrabble.Player 10
scrabble.Pool 13
scrabble.PoolTest 16
scrabble.Tile 16

Chapter 3

Class Documentation

3.1 scrabble.Frame Class Reference

Public Member Functions

- Frame (Pool pool)
- void fillFrame ()
- ArrayList< Tile > returnFrame ()
- boolean isEmpty ()
- void addTile (Tile tile)
- ArrayList< Tile > removeTiles (ArrayList< Tile > tiles)
- void swapTiles (ArrayList< Tile > tiles)
- boolean checkTiles (ArrayList< Tile > tiles)
- String toString ()

3.1.1 Constructor & Destructor Documentation

3.1.1.1 Frame()

```
scrabble.Frame.Frame (
            Pool pool )
```

Constructor for Frame

Parameters

pool	The reference to the Pool to access Tiles from

3.1.2 Member Function Documentation

3.1.2.1 addTile()

```
void scrabble.Frame.addTile (
            Tile tile )
```

Method to add a single Tile to the frame

Parameters

tile	To be added to the playerFrame

3.1.2.2 checkTiles()

```
boolean scrabble.Frame.checkTiles (
            ArrayList< Tile > tiles )
```

Method which checks if a series of Tiles are currently in the Frame

Parameters

tiles	List of tiles to be checked

Returns

boolean: Result for if the Frame contains all the Tiles

3.1.2.3 fillFrame()

```
void scrabble.Frame.fillFrame ( )
```

Method to fill the Frame up to the maximum number of Tiles

3.1.2.4 isEmpty()

```
boolean scrabble.Frame.isEmpty ( )
```

Method to check if the playerFrame has Tiles in it

Returns

boolean: Answer for if the playerFrame is empty

3.1.2.5 removeTiles()

```
ArrayList<Tile> scrabble.Frame.removeTiles (
            ArrayList< Tile > tiles )
```

Method to remove a list of Tiles from the Frame

Parameters

tiles	List of Tiles to be removed

Returns

removedTiles: Tiles that were removed from the frmae

Exceptions

InvalidFrameException	If the Tiles to be removed are in the Frame

3.1.2.6 returnFrame()

```
ArrayList<Tile> scrabble.Frame.returnFrame ( )
```

Accessor method for playerFrame

Returns

playerFrame: The ArrayList of Tiles in playerFrame

3.1.2.7 swapTiles()

```
void scrabble.Frame.swapTiles (
            ArrayList< Tile > tiles )
```

Method used to swap a number of Tiles from the Frame for new ones in the Pool

Parameters

tiles	List of Tiles to be removed

3.1.2.8 toString()

```
String scrabble.Frame.toString ( )
```

Method overriding the toString method

Returns

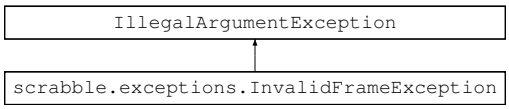
String: Formatted string of the Tiles in Frame

The documentation for this class was generated from the following file:

- src/main/java/scrabble/Frame.java

3.2 scrabble.exceptions.InvalidFrameException Class Reference

Inheritance diagram for scrabble.exceptions.InvalidFrameException:



Public Member Functions

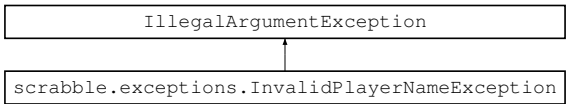
- **InvalidFrameException** (String s)

The documentation for this class was generated from the following file:

- src/main/java/scrabble/exceptions/InvalidFrameException.java

3.3 scrabble.exceptions.InvalidPlayerNameException Class Reference

Inheritance diagram for scrabble.exceptions.InvalidPlayerNameException:



Public Member Functions

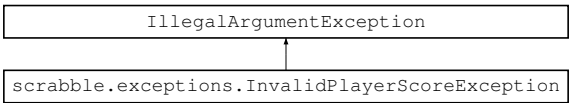
- **InvalidPlayerNameException** (String s)

The documentation for this class was generated from the following file:

- src/main/java/scrabble/exceptions/InvalidPlayerNameException.java

3.4 scrabble.exceptions.InvalidPlayerScoreException Class Reference

Inheritance diagram for scrabble.exceptions.InvalidPlayerScoreException:



Public Member Functions

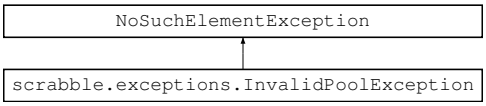
- **InvalidPlayerScoreException** (String s)

The documentation for this class was generated from the following file:

- src/main/java/scrabble/exceptions/InvalidPlayerScoreException.java

3.5 scrabble.exceptions.InvalidPoolException Class Reference

Inheritance diagram for scrabble.exceptions.InvalidPoolException:



Public Member Functions

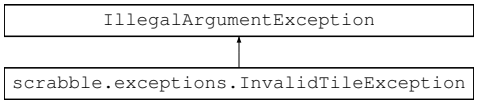
- **InvalidPoolException** (String s)

The documentation for this class was generated from the following file:

- src/main/java/scrabble/exceptions/InvalidPoolException.java

3.6 scrabble.exceptions.InvalidTileException Class Reference

Inheritance diagram for scrabble.exceptions.InvalidTileException:



Public Member Functions

- **InvalidTileException** (String s)

The documentation for this class was generated from the following file:

- src/main/java/scrabble/exceptions/InvalidTileException.java

3.7 scrabble.Main Class Reference

Static Public Member Functions

- static void **main** (String[ ] args)

The documentation for this class was generated from the following file:

- src/main/java/scrabble/Main.java

3.8 scrabble.Player Class Reference

Public Member Functions

- Player (String namePlayer, Pool pool)
- void playerReset (String newName)
- String getName ()
- void setName (String name)
- int getScore ()
- void increaseScore (int scoreIncrease)
- void decreaseScore (int scoreDecrease)
- Frame getPlayerFrame ()
- String toString ()

3.8.1 Detailed Description

Class that represents a player. Contains the information of each players

3.8.2 Constructor & Destructor Documentation

3.8.2.1 Player()

```
scrabble.Player.Player (
            String namePlayer,
            Pool pool )
```

Player Constructor

Parameters

namePlayer	String for the name of the Player
pool	Reference to the Pool of the game

Exceptions

InvalidPlayerNameException	If inputted name is invalid

3.8.3 Member Function Documentation

3.8.3.1 decreaseScore()

```
void scrabble.Player.decreaseScore (
            int scoreDecrease )
```

Mutator method for score to decrease the players score

Parameters

scoreDecrease	The value for the score to be increased by

Exceptions

InvalidPlayerScoreException	If a negative value is passed into Decrease_Score

3.8.3.2 getName()

```
String scrabble.Player.getName ( )
```

Accessor Method for Name

Returns

The name of the player

3.8.3.3 getPlayerFrame()

```
Frame scrabble.Player.getPlayerFrame ( )
```

Accessing Method player's frame

Returns

The value of playerFrame

3.8.3.4 getScore()

```
int scrabble.Player.getScore ( )
```

Accessor Method for Player Score

Returns

The Player's Score

3.8.3.5 increaseScore()

```
void scrabble.Player.increaseScore (
            int scoreIncrease )
```

Mutator method for score to increase the players score

Parameters

scoreIncrease	The value for the score to be increased by

Exceptions

InvalidPlayerScoreException	If player's score is increased by a negative value

3.8.3.6 playerReset()

```
void scrabble.Player.playerReset (
            String newName )
```

Resetting the score and name of the player

Parameters

newName	The new player name after the player is reset

Exceptions

InvalidPlayerNameException	If inputted name is invalid

3.8.3.7 setName()

```
void scrabble.Player.setName (
            String name )
```

Mutator Method for name

Parameters

name	The new Name of the Player

Exceptions

InvalidPlayerNameException	If inputted name is invalid

3.8.3.8 toString()

```
String scrabble.Player.toString ( )
```

A toString method to print the Player class variables

Returns

The Player class variables

The documentation for this class was generated from the following file:

- src/main/java/scrabble/Player.java

3.9 scrabble.Pool Class Reference

Public Member Functions

- void poolFill () throws InvalidTileException
- String toString ()
- Tile removeTile () throws InvalidPoolException
- void receiveTile (Tile tileAdded)
- int tilesInPool ()
- boolean isEmpty ()
- Pool ()

Static Public Member Functions

- static void **main** (String[ ] args)

3.9.1 Detailed Description

Class that represent a Character Tile for the Game of Scrabble

3.9.2 Constructor & Destructor Documentation

3.9.2.1 Pool()

```
scrabble.Pool.Pool ( )
```

Pool constructor

3.9.3 Member Function Documentation

3.9.3.1 isEmpty()

```
boolean scrabble.Pool.isEmpty ( )
```

Method to Check if the pool is empty

Returns

True if pool is empty

3.9.3.2 poolFill()

```
void scrabble.Pool.poolFill ( ) throws InvalidTileException
```

Function to fill the array with the set amount of each Tile in the standard English rules

Exceptions

InvalidTileException	

3.9.3.3 receiveTile()

```
void scrabble.Pool.receiveTile (
            Tile tileAdded )
```

Method to take in a tile and add it to a pool

Parameters

tileAdded	The tile to be added to the pool

3.9.3.4 removeTile()

```
Tile scrabble.Pool.removeTile ( ) throws InvalidPoolException
```

Method to remove a random tile from the pool and return the tile that was removed

Returns

The tile which was randomly removed from the pool

Exceptions

InvalidPoolException	If the pool is empty

3.9.3.5 tilesInPool()

```
int scrabble.Pool.tilesInPool ( )
```

Method to find the number of tiles in pool

Returns

The number of tiles in pool

3.9.3.6 toString()

```
String scrabble.Pool.toString ( )
```

Pool toString Method

Returns

Pool information in the form of a String

The documentation for this class was generated from the following file:

- src/main/java/scrabble/Pool.java

3.10 scrabble.PoolTest Class Reference

The documentation for this class was generated from the following file:

- src/test/java/scrabble/PoolTest.java

3.11 scrabble.Tile Class Reference

Public Member Functions

- short getValue ()
- char getCharacter ()
- void setCharacter (char character) throws InvalidTileException
- Tile (char c) throws InvalidTileException
- String toString ()

Static Public Member Functions

- static void main (String[ ] args)

3.11.1 Detailed Description

Class that represent a Character Tile for the Game of Scrabble

3.11.2 Constructor & Destructor Documentation

3.11.2.1 Tile()

```
scrabble.Tile.Tile (
            char c ) throws InvalidTileException
```

Constructor for Tile

Parameters

c	Character for the Tile

Exceptions

InvalidTileException	If an invalid character is inputted

3.11.3 Member Function Documentation

3.11.3.1 getCharacter()

```
char scrabble.Tile.getCharacter ( )
```

Accessor method for character of the Tile

Returns

Char of the Tile

3.11.3.2 getValue()

```
short scrabble.Tile.getValue ( )
```

Accessor method for value of the tile

Returns

Short value of the tile

3.11.3.3 main()

```
static void scrabble.Tile.main (
            String[] args )  [static]
```

Main Function

Parameters

args	Arguments

3.11.3.4 setCharacter()

```
void scrabble.Tile.setCharacter (
            char character ) throws InvalidTileException
```

Method to change the character of a blank Tile

Parameters

character	New char for the Tile

Exceptions

InvalidTileException	If an invalid char inputted or the Tile is not blank

3.11.3.5 toString()

```
String scrabble.Tile.toString ( )
```

toString Method for Tile

Returns

The string of Tile

The documentation for this class was generated from the following file:

- src/main/java/scrabble/Tile.java

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