nulocks-core

0.1

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Chapter 1

nulocks-core

nulocks - NUmerical bLOCKS is a modular and customizable clone of 2048 game in C++. This is a repository with core engine of the game.

The main purpose of Nulocks is to provide an engine of a game similar to original 2048 and an option to visualize it in any interface you want to implement it in. This repository contains this very engine that can be used to implement 2048 and/or use extended Nulocks possibilities such as determined by user size of the board and ending level of block in any user interface you want.

If you want to contribute, start with the documentation at: http://www.phitherek.mooo.com/doxy/nulocks-core/. I would be happy to see Nulocks implemented for many platforms in many graphical libraries.

Installation

```
make
```

```
sudo make install
```

Make macros: LIBPREFIX - determines a directory in which the shared library should be placed, default: /usr/lib, INCLUDEPREFIX - determines a directory in which the header files should be placed, default: /usr/include. Use them with the install command.

Usage

In your program include the main header file:

```
#include "nulocks-core/Board.h"
```

Compile your program with:

```
g++ -o your_executable your_source.cpp -lnulockscore
```

Chapter 2

Namespace Index

2.1 Namespace List

Here is a list of all documented namespaces with brief descriptions:

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Class Index

3.1 Class List

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

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4.1 File List

Here is a list of all documented files with brief descriptions:

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Namespace Documentation

5.1 Nulocks Namespace Reference

A global namespace for all Nulocks game components.

Namespaces

- Core

  A namespace for Nulocks core game engine.

5.1.1 Detailed Description

A global namespace for all Nulocks game components.

5.2 Nulocks::Core Namespace Reference

A namespace for Nulocks core game engine.

Classes

- class Block

  A class representing a block on the game board.
- class Board

  A class that represents Nulocks board.

5.2.1 Detailed Description

A namespace for Nulocks core game engine.

Chapter 6

Class Documentation

6.1 Nulocks::Core::Block Class Reference

A class representing a block on the game board.

`#include <Block.h>`

Public Member Functions

- Block ()

  Construct an empty block.
- ~Block ()

  Destroy the block.
- void setMoved ()

  Indicate the block as moved this turn.
- void unsetMoved ()

  Indicate the block as not moved this turn.
- bool wasMoved ()

  Check if the block was moved this turn.
- int getValue ()

  Get block value.
- int getLevel ()

  Get block level.
- void levelUp ()

  Increase level of the block.
- void empty ()

  Make the block empty.
- bool isEmpty ()

  Check if the block is empty.
- void setLevel (int level)

  Set level of the block.

6.1.1 Detailed Description

A class representing a block on the game board.

6.1.2 Member Function Documentation

6.1.2.1 int Nulocks::Core::Block::getLevel ( )

Get block level.

Returns

Level of the block.

6.1.2.2 int Nulocks::Core::Block::getValue ( )

Get block value.

Returns

Value of the block.

6.1.2.3 bool Nulocks::Core::Block::isEmpty ( )

Check if the block is empty.

Returns

True if the block is empty, false otherwise.

6.1.2.4 void Nulocks::Core::Block::setLevel (int *level*)

Set level of the block.

Parameters

level	Level of the block.

6.1.2.5 bool Nulocks::Core::Block::wasMoved ( )

Check if the block was moved this turn.

Returns

True if block was moved this turn, false otherwise.

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

- Block.h
- Block.cpp

6.2 Nulocks::Core::Board Class Reference

A class that represents Nulocks board.

`#include <Board.h>`

Public Member Functions

- Board (int size=4, int winpower=11)

  Initializes the board for the new game.
- ~Board ()

  Destroys the board, frees the memory.
- Board (const Board &cpy)

  A copy constructor.
- void moveUp ()

  Performs a move upwards and starts new turn.
- void moveDown ()

  Performs a move downwards and starts new turn.
- void moveLeft ()

  Performs a move to the left and starts new turn.
- void moveRight ()

  Performs a move to the right and starts new turn.
- bool gameInProgress ()

  Checks if game is in progress.
- bool gameWon ()

  Checks if game has been won.
- bool gameLost ()

  Checks if game has been lost.
- int getScore ()

  Returns the current score.
- int getWinPower ()

  Returns the power of 2 required to win the game.
- int getSize ()

  Returns size of the board.
- void getRepresentation (int ***repr)

  Returns representation of the board as an array of integers.

6.2.1 Detailed Description

A class that represents Nulocks board.

6.2.2 Constructor & Destructor Documentation

6.2.2.1 Nulocks::Core::Board::Board (int *size* = `4`, int *winpower* = `11`)

Initializes the board for the new game.

Parameters

size	Size of the board, defaults to 4 as in original 2048.
winpower	Power of 2 to get to win the game. Defaults to 11, as in original 2048 game.

6.2.2.2 Nulocks::Core::Board::Board (const Board & *cpy*)

A copy constructor.

Parameters

cpy	A Board object to be copied.

6.2.3 Member Function Documentation

6.2.3.1 bool Nulocks::Core::Board::gameInProgress ( )

Checks if game is in progress.

Returns

True if game is in progress, false otherwise.

6.2.3.2 bool Nulocks::Core::Board::gameLost ( )

Checks if game has been lost.

Returns

True if game has been lost, false otherwise.

6.2.3.3 bool Nulocks::Core::Board::gameWon ( )

Checks if game has been won.

Returns

True if game has been won, false otherwise.

6.2.3.4 void Nulocks::Core::Board::getRepresentation (int *** *repr*)

Returns representation of the board as an array of integers.

Parameters

in,out	*repr*	Takes address of a two-dimensional array of integers with the same size as the board. Returns integer representation of the board to this array. Memory allocation and freeing must be handled outside this method.

6.2.3.5 int Nulocks::Core::Board::getScore ( )

Returns the current score.

Returns

Current score of the player.

6.2.3.6 int Nulocks::Core::Board::getSize ( )

Returns size of the board.

Returns

Size of the board.

6.2.3.7 int Nulocks::Core::Board::getWinPower ( )

Returns the power of 2 required to win the game.

Returns

Power of 2 to get to win the game.

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

- Board.h
- Board.cpp

Chapter 7

File Documentation

7.1 Block.h File Reference

A file that contains the class representing a block on the game board.

Classes

- class Nulocks::Core::Block

  A class representing a block on the game board.

Namespaces

- Nulocks

  A global namespace for all Nulocks game components.
- Nulocks::Core

  A namespace for Nulocks core game engine.

7.1.1 Detailed Description

A file that contains the class representing a block on the game board.

Author

Phitherek_

Date

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Version

0.1

7.2 Board.h File Reference

A file that contains main core engine class of Nulocks - modular and customizable clone of 2048 game.

```
#include "Block.h"
```

Classes

- class Nulocks::Core::Board

  A class that represents Nulocks board.

Namespaces

- Nulocks

  A global namespace for all Nulocks game components.
- Nulocks::Core

  A namespace for Nulocks core game engine.

7.2.1 Detailed Description

A file that contains main core engine class of Nulocks - modular and customizable clone of 2048 game.

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