

Klondike

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# Chapter 1

## Hierarchical Index

### 1.1 Class Hierarchy

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

sf::Drawable	
Card . . . . .	7
Stack . . . . .	44
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Klondike . . . . .	16
myEvent . . . . .	29
Player . . . . .	36
Shuffle . . . . .	42
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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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## Chapter 3

# File Index

### 3.1 File List

Here is a list of all files with brief descriptions:

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Class made to enable undoing movements. Named <a href="#">myEvent</a> because Event already exists as a part of SFML library	66
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Four (collecting) piles of cards at the top (class)	69
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Class that manages all loaded textures from files	78



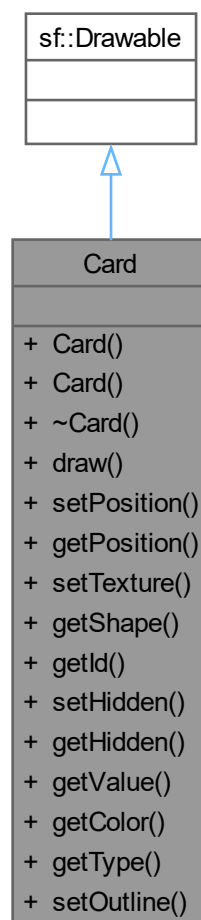
## Chapter 4

# Class Documentation

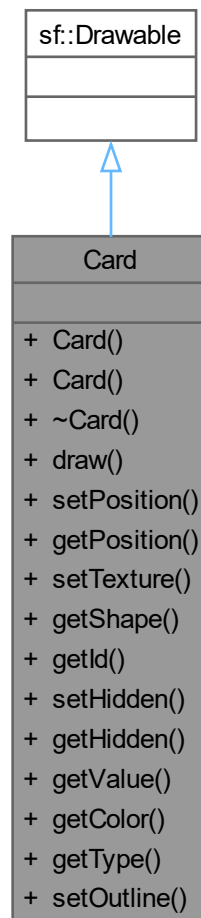
### 4.1 Card Class Reference

```
#include <Card.h>
```

Inheritance diagram for Card:



Collaboration diagram for Card:



## Public Member Functions

- [Card](#) ()
- [Card](#) (int index, int value, std::string Color, std::string Type, std::string texturePath)
- [~Card](#) ()=default
- void [draw](#) (RenderTarget &target, RenderStates state) const override
- void [setPosition](#) (float X, float Y)
- std::pair< float, float > [getPosition](#) ()
- void [setTexture](#) ()
- RectangleShape [getShape](#) ()
- int [getId](#) ()
- void [setHidden](#) (const bool i)
- bool [getHidden](#) ()
- int [getValue](#) ()
- std::string [getColor](#) ()
- std::string [getType](#) ()
- void [setOutline](#) ()



## 4.1.1 Constructor & Destructor Documentation

### 4.1.1.1 Card() [1/2]

```
Card::Card ( )
```

[Card](#) basic constructor

### 4.1.1.2 Card() [2/2]

```
Card::Card (
    int index,
    int value,
    std::string Color,
    std::string Type,
    std::string texturePath )
```

[Card](#) constructor

### 4.1.1.3 ~Card()

```
Card::~Card ( ) [default]
```

[Card](#) destructor

## 4.1.2 Member Function Documentation

### 4.1.2.1 draw()

```
void Card::draw (
    RenderTarget & target,
    RenderStates state ) const [override]
```

[Card](#) draw (SFML) method

### 4.1.2.2 getColor()

```
std::string Card::getColor ( )
```

Getting card color method Here is the caller graph for this function:



#### 4.1.2.3 getHidden()

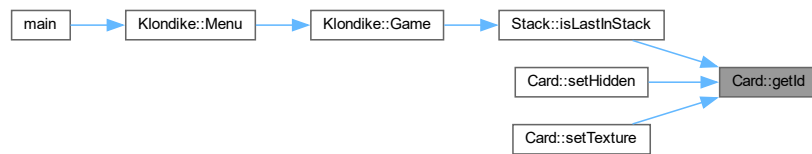
```
bool Card::getHidden ( )
```

Getting card visibility method

#### 4.1.2.4 getId()

```
int Card::getId ( )
```

Getting card ID method Here is the caller graph for this function:



#### 4.1.2.5 getPosition()

```
std::pair< float, float > Card::getPosition ( )
```

Getting card position method Here is the caller graph for this function:



#### 4.1.2.6 getShape()

```
RectangleShape Card::getShape ( )
```

Getting card shape method (SFML feature)

#### 4.1.2.7 getType()

```
std::string Card::getType ( )
```

Getting card type method Here is the caller graph for this function:



#### 4.1.2.8 getValue()

```
int Card::getValue ( )
```

Getting card value method Here is the caller graph for this function:



#### 4.1.2.9 setHidden()

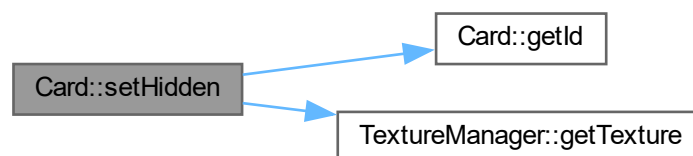
```
void Card::setHidden (
    const bool i )
```

Setting card visibility method.

##### Parameters

<i>i</i>	Hidden variable
----------	-----------------

Here is the call graph for this function:



#### 4.1.2.10 setOutline()

```
void Card::setOutline ( )
```

Setting outline of card shape method

#### 4.1.2.11 setPosition()

```
void Card::setPosition (
    float X,
    float Y )
```

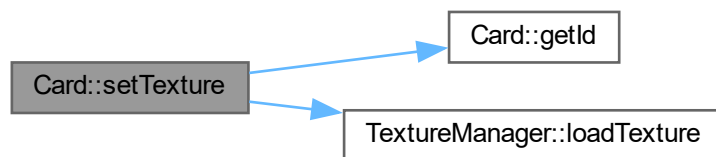
[Card](#) positioning method Here is the caller graph for this function:



#### 4.1.2.12 setTexture()

```
void Card::setTexture ( )
```

Setting texture method Here is the call graph for this function:



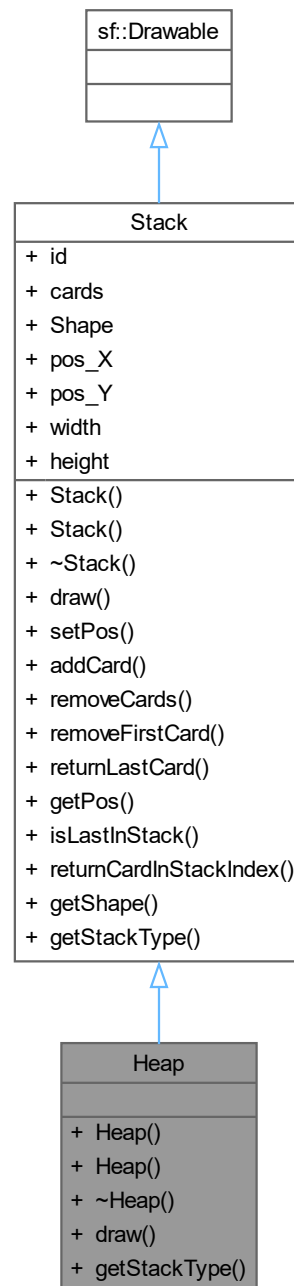
The documentation for this class was generated from the following files:

- [Card.h](#)
- [Card.cpp](#)

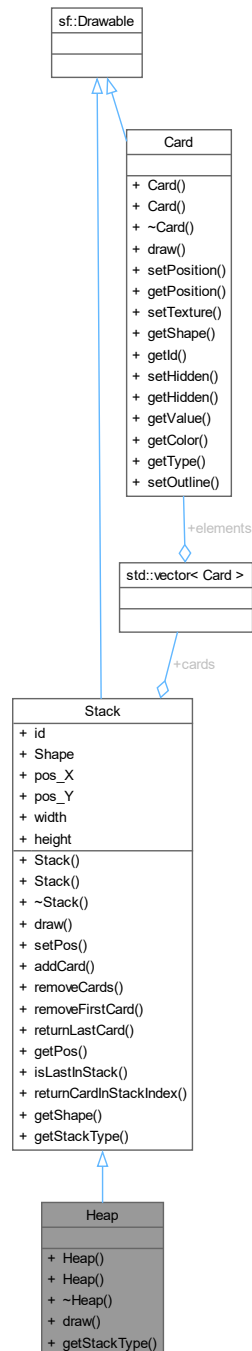
## 4.2 Heap Class Reference

```
#include <Heap.h>
```

Inheritance diagram for Heap:



Collaboration diagram for Heap:



## Public Member Functions

- [Heap](#) ()
- [Heap](#) (float RectangleX, float RectangleY, std::string stackType)
- [~Heap](#) ()=default
- void [draw](#) (RenderTarget &target, RenderStates state) const override
- std::string [getStackType](#) ()

## Public Member Functions inherited from [Stack](#)

- [Stack](#) (const int number, float RectangleX, float RectangleY, std::string stackType)
- [Stack](#) ()
- [~Stack](#) ()=default
- virtual void [draw](#) (RenderTarget &target, RenderStates state) const override
- virtual void [setPos](#) (float x, float y)
- virtual void [addCard](#) ([Card](#) card)
- virtual void [removeCards](#) (int number)
- virtual void [removeFirstCard](#) ()
- virtual [Card](#) [returnLastCard](#) ()
- std::pair< float, float > [getPos](#) ()
- bool [isLastInStack](#) ([Card](#) &card)
- int [returnCardInStackIndex](#) (int card)
- RectangleShape [getShape](#) ()
- std::string [getStackType](#) ()

## Additional Inherited Members

## Public Attributes inherited from [Stack](#)

- int [id](#)
- std::vector< [Card](#) > [cards](#)
- RectangleShape [Shape](#)
- float [pos\\_X](#)
- float [pos\\_Y](#)
- const float [width](#) = 60
- const float [height](#) = 90

## 4.2.1 Constructor & Destructor Documentation

### 4.2.1.1 [Heap](#)() [1/2]

```
Heap::Heap ( )
```

[Heap](#) basic constructor

### 4.2.1.2 [Heap](#)() [2/2]

```
Heap::Heap (
    float RectangleX,
    float RectangleY,
    std::string stackType )
```

[Heap](#) constructor

### 4.2.1.3 [~Heap](#)()

```
Heap::~Heap ( ) [default]
```

[Heap](#) destructor

## 4.2.2 Member Function Documentation

### 4.2.2.1 draw()

```
void Heap::draw (
    RenderTarget & target,
    RenderStates state ) const [override], [virtual]
```

[Heap](#) drawing method (SFML)

Reimplemented from [Stack](#).

### 4.2.2.2 getStackType()

```
std::string Heap::getStackType ( )
```

Getting stack type method

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

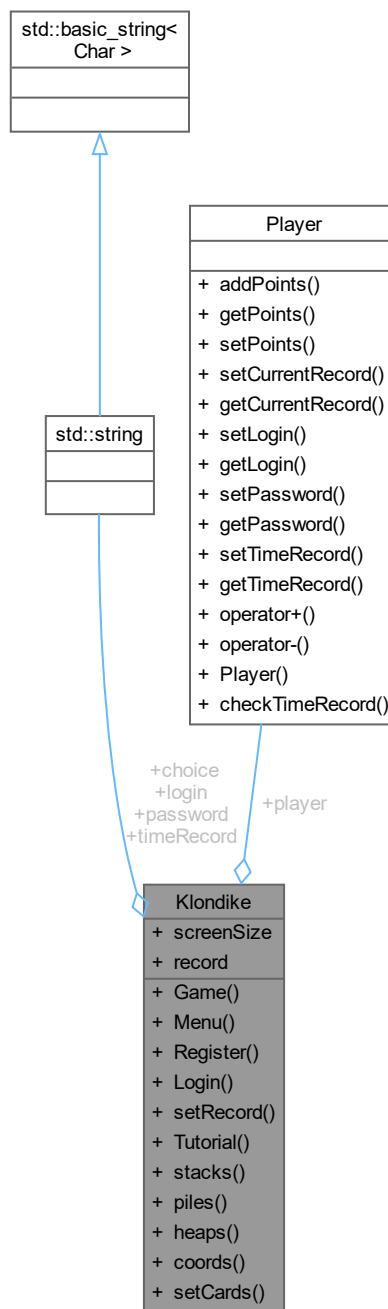
- [Heap.h](#)
- [Heap.cpp](#)

## 4.3 Klondike Class Reference

```
#include <Klondike.h>
```



Collaboration diagram for Klondike:



### Static Public Member Functions

- static void [Game](#) ()
- static void [Menu](#) ()
- static void [Register](#) ()
- static bool [Login](#) (std::string &loginPlayer, std::string &passwordPlayer, int &[record](#), std::string &[timeRecord](#))
- static void [setRecord](#) ([Player](#) &player)

- static void [Tutorial](#) ()
- static std::vector< [Stack](#) > [stacks](#) ()
- static std::vector< [Pile](#) > [piles](#) ()
- static std::vector< [Heap](#) > [heaps](#) ()
- static std::vector< float > [coords](#) ()
- static void [setCards](#) (std::vector< [Stack](#) > &[stacks](#), std::vector< [Pile](#) > &[piles](#), std::vector< [Heap](#) > &[heaps](#), std::vector< [Card](#) > &[cards](#), std::vector< float > &[coords](#))

### Static Public Attributes

- static std::pair< float, float > [screenSize](#)
- static std::string [choice](#)
- static [Player](#) [player](#)
- static std::string [login](#)
- static std::string [password](#)
- static int [record](#)
- static std::string [timeRecord](#)

## 4.3.1 Member Function Documentation

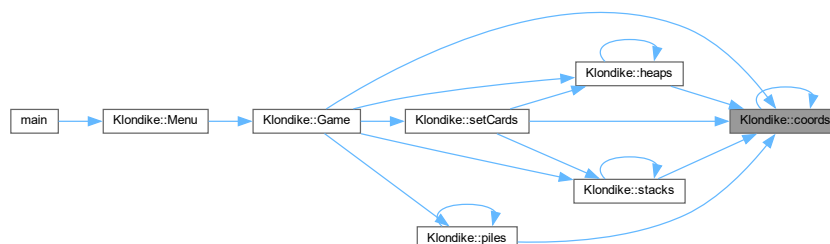
### 4.3.1.1 coords()

```
std::vector< float > Klondike::coords ( ) [static]
```

Creating different coords / values being used in program. They are dependent of the screen size. Here is the call graph for this function:



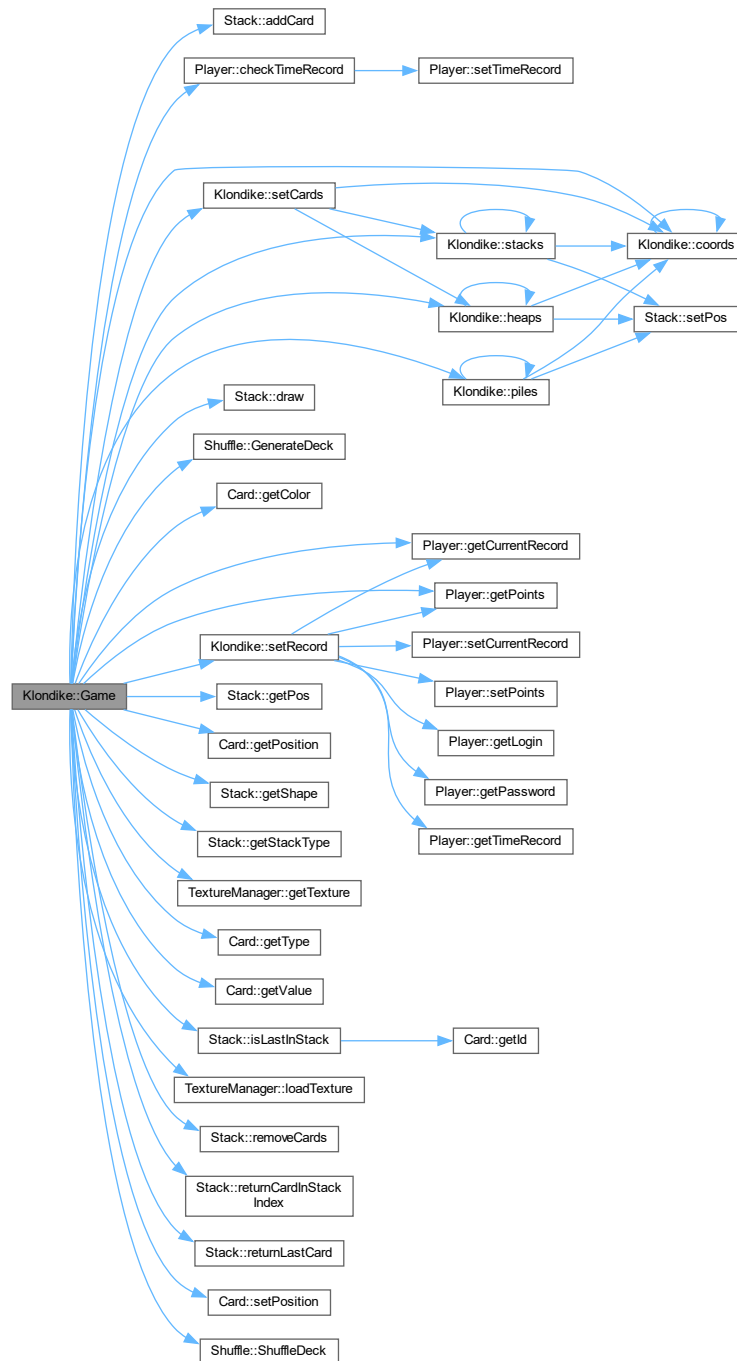
Here is the caller graph for this function:



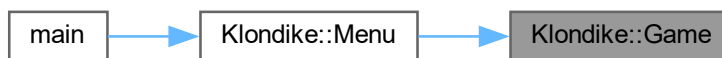
## 4.3.1.2 Game()

```
void Klondike::Game ( ) [static]
```

Whole Game Method Here is the call graph for this function:



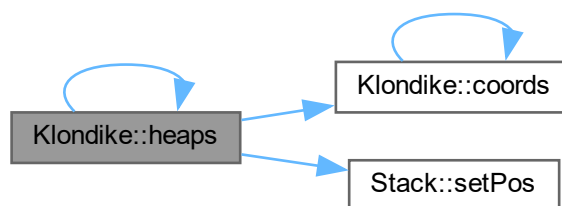
Here is the caller graph for this function:



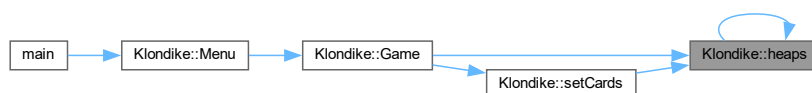
#### 4.3.1.3 heaps()

```
std::vector< Heap > Klondike::heaps ( ) [static]
```

Creating heaps method Here is the call graph for this function:



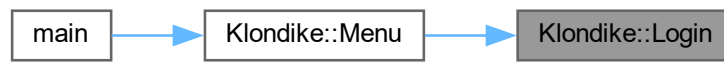
Here is the caller graph for this function:



#### 4.3.1.4 Login()

```
bool Klondike::Login (
    std::string & loginPlayer,
    std::string & passwordPlayer,
    int & record,
    std::string & timeRecord ) [static]
```

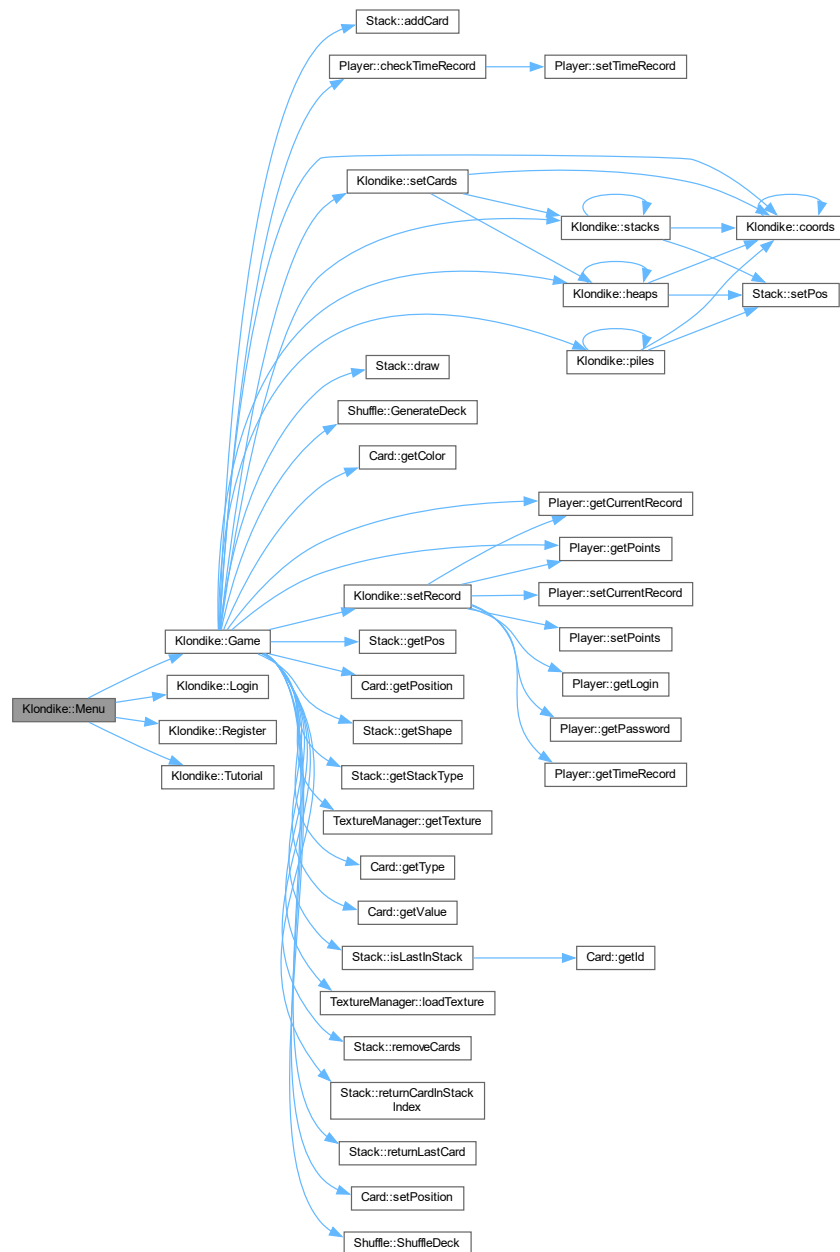
[Player](#) logging method Here is the caller graph for this function:



#### 4.3.1.5 Menu()

```
void Klondike::Menu ( ) [static]
```

Displaying menu method Here is the call graph for this function:



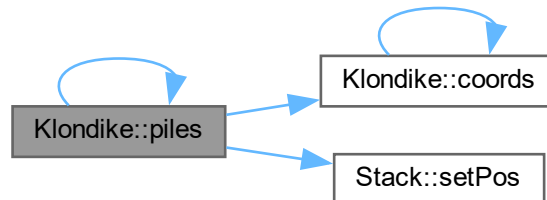
Here is the caller graph for this function:



#### 4.3.1.6 piles()

```
std::vector< Pile > Klondike::piles ( ) [static]
```

Creating piles method Here is the call graph for this function:



Here is the caller graph for this function:



#### 4.3.1.7 Register()

```
void Klondike::Register ( ) [static]
```

[Player](#) registering method Here is the caller graph for this function:



#### 4.3.1.8 setCards()

```
void Klondike::setCards (
    std::vector< Stack > & stacks,
    std::vector< Pile > & piles,
    std::vector< Heap > & heaps,
    std::vector< Card > & cards,
    std::vector< float > & coords ) [static]
```

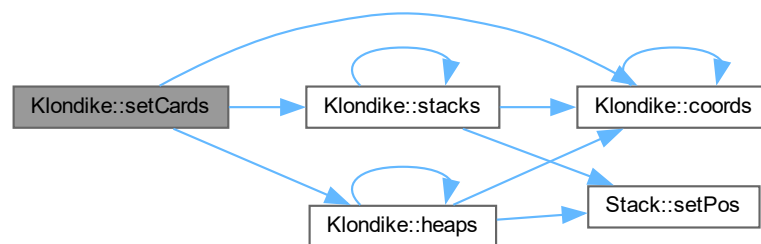
Starting cards positioning method.



## Parameters

<i>stacks</i>	Stacks vector
<i>piles</i>	Piles vector
<i>heaps</i>	Heaps vector
<i>cards</i>	Cards vector
<i>coords</i>	Coords vector

Here is the call graph for this function:



Here is the caller graph for this function:



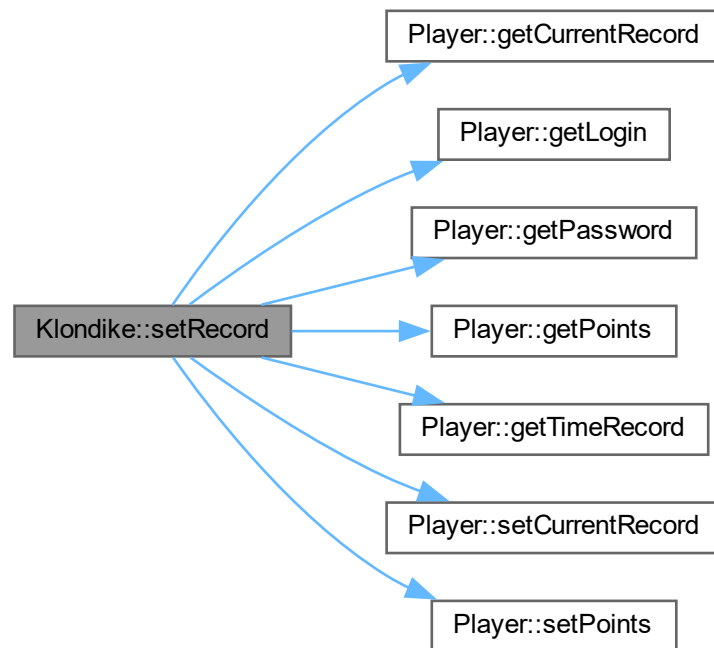
## 4.3.1.9 setRecord()

```

void Klondike::setRecord (
    Player & player ) [static]

```

Setting new player's record method Here is the call graph for this function:



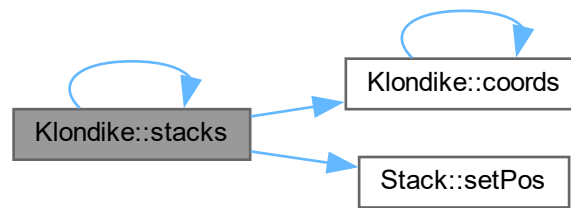
Here is the caller graph for this function:



#### 4.3.1.10 stacks()

```
std::vector< Stack > Klondike::stacks ( ) [static]
```

Creating stacks method Here is the call graph for this function:



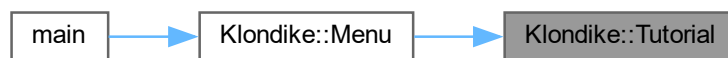
Here is the caller graph for this function:



#### 4.3.1.11 Tutorial()

```
void Klondike::Tutorial ( ) [static]
```

Displaying tutorial method Here is the caller graph for this function:



## 4.3.2 Member Data Documentation

### 4.3.2.1 choice

```
std::string Klondike::choice [static]
```

Menu choice variable

#### 4.3.2.2 login

```
std::string Klondike::login [static]
```

[Player](#) login

#### 4.3.2.3 password

```
std::string Klondike::password [static]
```

[Player](#) password

#### 4.3.2.4 player

```
Player Klondike::player [static]
```

Logged player object

#### 4.3.2.5 record

```
int Klondike::record [static]
```

[Player](#) saved record

#### 4.3.2.6 screenSize

```
std::pair< float, float > Klondike::screenSize [static]
```

Static variable - X and Y of screen

#### 4.3.2.7 timeRecord

```
std::string Klondike::timeRecord [static]
```

Record time of won game by the player

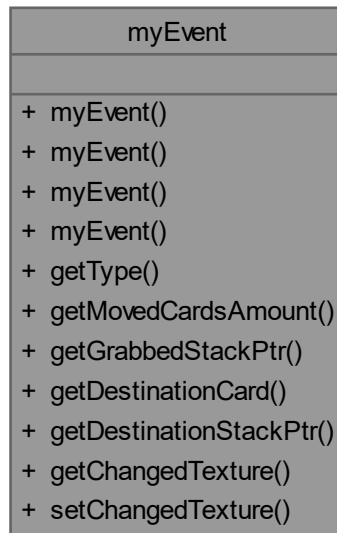
The documentation for this class was generated from the following files:

- [Klondike.h](#)
- [Klondike.cpp](#)

## 4.4 myEvent Class Reference

```
#include <myEvent.h>
```

Collaboration diagram for myEvent:



### Public Member Functions

- [myEvent](#) ()
- [myEvent](#) (int type, int movedCardsAmount, [Stack](#) \*grabbedStackPtr, [Card](#) &destinationCard, [Stack](#) \*destinationStackPtr)
- [myEvent](#) (int type, int movedCardsAmount, [Stack](#) \*grabbedStackPtr, [Stack](#) \*destinationStackPtr)
- [myEvent](#) (int type, int movedCardsAmount)
- int [getType](#) ()
- int [getMovedCardsAmount](#) ()
- [Stack](#) \* [getGrabbedStackPtr](#) ()
- [Card](#) [getDestinationCard](#) ()
- [Stack](#) \* [getDestinationStackPtr](#) ()
- bool [getChangedTexture](#) ()
- void [setChangedTexture](#) (bool x)

### 4.4.1 Constructor & Destructor Documentation

#### 4.4.1.1 myEvent() [1/4]

```
myEvent::myEvent ( )
```

Event basic constructor

**4.4.1.2 myEvent() [2/4]**

```
myEvent::myEvent (
    int type,
    int movedCardsAmount,
    Stack * grabbedStackPtr,
    Card & destinationCard,
    Stack * destinationStackPtr )
```

Event constructor.

**Parameters**

<i>type</i>	Amount of cards that are being moved from stack to stack
<i>movedCardsAmount</i>	Grabbed stack pointer (stack from which card/s were moved)
<i>grabbedStackPtr</i>	Grabbed stack pointer (stack from which card/s were moved)
<i>destinationCard</i>	Destination card place (by reference)
<i>destinationStackPtr</i>	Destination stack pointer

**4.4.1.3 myEvent() [3/4]**

```
myEvent::myEvent (
    int type,
    int movedCardsAmount,
    Stack * grabbedStackPtr,
    Stack * destinationStackPtr )
```

Event constructor.

**Parameters**

<i>type</i>	Amount of cards that are being moved from stack to stack
<i>movedCardsAmount</i>	Grabbed stack pointer (stack from which card/s were moved)
<i>grabbedStackPtr</i>	Grabbed stack pointer (stack from which card/s were moved)
<i>destinationStackPtr</i>	Destination stack pointer

**4.4.1.4 myEvent() [4/4]**

```
myEvent::myEvent (
    int type,
    int movedCardsAmount )
```

Event constructor.

**Parameters**

<i>type</i>	Amount of cards that are being moved from stack to stack
<i>movedCardsAmount</i>	Grabbed stack pointer (stack from which card/s were moved)

## 4.4.2 Member Function Documentation

### 4.4.2.1 getChangedTexture()

```
bool myEvent::getChangedTexture ( )
```

Getting changedTexture variable

### 4.4.2.2 getDestinationCard()

```
Card myEvent::getDestinationCard ( )
```

Getting destination card method

### 4.4.2.3 getDestinationStackPtr()

```
Stack * myEvent::getDestinationStackPtr ( )
```

Getting pointer to destination stack method

### 4.4.2.4 getGrabbedStackPtr()

```
Stack * myEvent::getGrabbedStackPtr ( )
```

Getting pointer to grabbed stack method

### 4.4.2.5 getMovedCardsAmount()

```
int myEvent::getMovedCardsAmount ( )
```

Getting amount of moved cards method

### 4.4.2.6 getType()

```
int myEvent::getType ( )
```

Getting event type method

### 4.4.2.7 setChangedTexture()

```
void myEvent::setChangedTexture (
    bool x )
```

Setting changedTexture variable.

**Parameters**

x	ChangedTexture variable
---	-------------------------

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

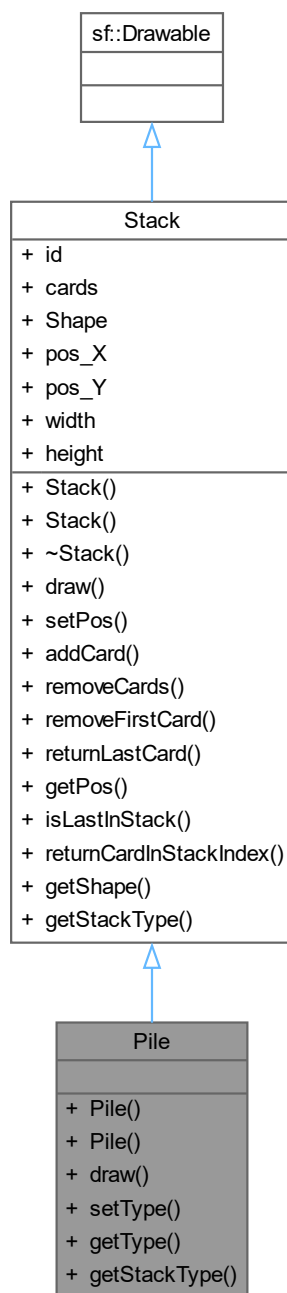
- [myEvent.h](#)
- [myEvent.cpp](#)

## 4.5 Pile Class Reference

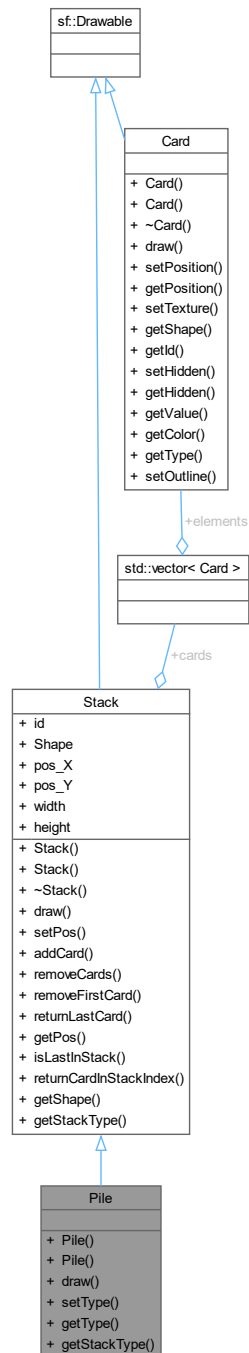
```
#include <Pile.h>
```



Inheritance diagram for Pile:



Collaboration diagram for Pile:



## Public Member Functions

- [Pile](#) ()
- [Pile](#) (float RectangleX, float RectangleY, std::string stackType)
- void [draw](#) (RenderTarget &target, RenderStates state) const override
- void [setType](#) (std::string x)
- std::string [getType](#) ()
- std::string [getStackType](#) ()

## Public Member Functions inherited from [Stack](#)

- [Stack](#) (const int number, float RectangleX, float RectangleY, std::string stackType)
- [Stack](#) ()
- [~Stack](#) ()=default
- virtual void [draw](#) (RenderTarget &target, RenderStates state) const override
- virtual void [setPos](#) (float x, float y)
- virtual void [addCard](#) ([Card](#) card)
- virtual void [removeCards](#) (int number)
- virtual void [removeFirstCard](#) ()
- virtual [Card](#) [returnLastCard](#) ()
- std::pair< float, float > [getPos](#) ()
- bool [isLastInStack](#) ([Card](#) &card)
- int [returnCardInStackIndex](#) (int card)
- RectangleShape [getShape](#) ()
- std::string [getStackType](#) ()

## Additional Inherited Members

## Public Attributes inherited from [Stack](#)

- int [id](#)
- std::vector< [Card](#) > [cards](#)
- RectangleShape [Shape](#)
- float [pos\\_X](#)
- float [pos\\_Y](#)
- const float [width](#) = 60
- const float [height](#) = 90

## 4.5.1 Constructor & Destructor Documentation

### 4.5.1.1 [Pile\(\)](#) [1/2]

```
Pile::Pile ( )
```

[Pile](#) basic constructor

### 4.5.1.2 [Pile\(\)](#) [2/2]

```
Pile::Pile (
    float RectangleX,
    float RectangleY,
    std::string stackType )
```

[Pile](#) construcor.

#### Parameters

<i>RectangleX</i>	<a href="#">Pile</a> position (x)
<i>RectangleY</i>	<a href="#">Pile</a> position (y)
<i>stackType</i>	<a href="#">Stack</a> type

## 4.5.2 Member Function Documentation

### 4.5.2.1 draw()

```
void Pile::draw (
    RenderTarget & target,
    RenderStates state ) const [override], [virtual]
```

[Pile](#) drawing method (SFML)

Reimplemented from [Stack](#).

### 4.5.2.2 getStackType()

```
std::string Pile::getStackType ( )
```

Getting stack type method

### 4.5.2.3 getType()

```
std::string Pile::getType ( )
```

Getting pile type method

### 4.5.2.4 setType()

```
void Pile::setType (
    std::string x )
```

Setting pile type method.

#### Parameters

x	Type that we're setting
---	-------------------------

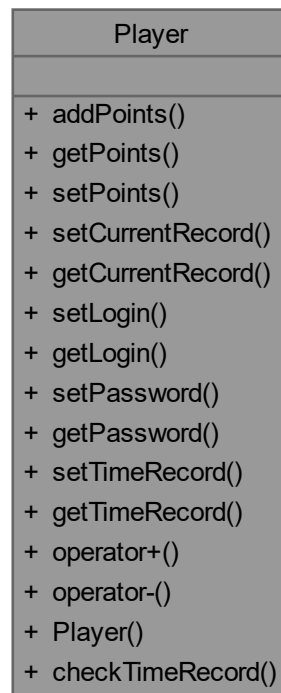
The documentation for this class was generated from the following files:

- [Pile.h](#)
- [Pile.cpp](#)

## 4.6 Player Class Reference

```
#include <Player.h>
```

Collaboration diagram for Player:



### Public Member Functions

- void [addPoints](#) (int points)
- int [getPoints](#) ()
- void [setPoints](#) (int points)
- void [setCurrentRecord](#) (int record)
- int [getCurrentRecord](#) ()
- void [setLogin](#) (std::string login)
- std::string [getLogin](#) ()
- void [setPassword](#) (std::string password)
- std::string [getPassword](#) ()
- void [setTimeRecord](#) (std::string timeRecord)
- std::string [getTimeRecord](#) ()
- [Player operator+](#) (int points)
- [Player operator-](#) (int points)
- [Player](#) (std::string login, std::string password, int record, std::string timeRecord)
- void [checkTimeRecord](#) (Text &time, int hours, int minutes, int seconds)

## 4.6.1 Constructor & Destructor Documentation

### 4.6.1.1 Player()

```

Player::Player (
    std::string login,

```

```
std::string password,
int record,
std::string timeRecord )
```

[Player](#) constructor.

#### Parameters

<i>login</i>	Login
<i>password</i>	Password
<i>record</i>	Record
<i>timeRecord</i>	Time record

## 4.6.2 Member Function Documentation

### 4.6.2.1 addPoints()

```
void Player::addPoints (
    int points )
```

Adding points method.

#### Parameters

<i>points</i>	Points value
---------------	--------------

### 4.6.2.2 checkTimeRecord()

```
void Player::checkTimeRecord (
    Text & time,
    int hours,
    int minutes,
    int seconds )
```

Method that checks if player set new time record.

#### Parameters

<i>time</i>	Previous saved time record text
<i>hours</i>	Current time hours
<i>minutes</i>	Current time minutes
<i>seconds</i>	Current time seconds

Here is the call graph for this function:



Here is the caller graph for this function:



#### 4.6.2.3 getCurrentRecord()

```
int Player::getCurrentRecord ( )
```

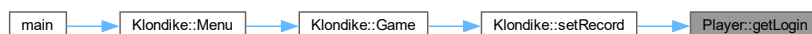
Getting current record value Here is the caller graph for this function:



#### 4.6.2.4 getLogin()

```
std::string Player::getLogin ( )
```

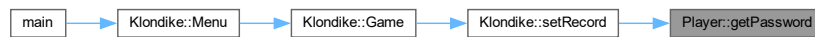
Getting login method Here is the caller graph for this function:



#### 4.6.2.5 getPassword()

```
std::string Player::getPassword ( )
```

Getting password method Here is the caller graph for this function:



#### 4.6.2.6 getPoints()

```
int Player::getPoints ( )
```

Getting points method Here is the caller graph for this function:



#### 4.6.2.7 getTimeRecord()

```
std::string Player::getTimeRecord ( )
```

Getting time record method Here is the caller graph for this function:



#### 4.6.2.8 operator+()

```
Player Player::operator+ (
    int points )
```

Operator made in order to add player points in a different way.

Parameters

<i>points</i>	value
---------------	-------



#### 4.6.2.9 operator-()

```
Player Player::operator- (
    int points )
```

Operator made in order to subtract player points in a different way.

##### Parameters

<i>points</i>	value
---------------	-------

#### 4.6.2.10 setCurrentRecord()

```
void Player::setCurrentRecord (
    int record )
```

Setting current record method.

##### Parameters

<i>record</i>	Record (points) value
---------------	-----------------------

Here is the caller graph for this function:



#### 4.6.2.11 setLogin()

```
void Player::setLogin (
    std::string login )
```

Setting login method.

##### Parameters

<i>login</i>	Login
--------------	-------

#### 4.6.2.12 setPassword()

```
void Player::setPassword (
    std::string password )
```

Setting password method.

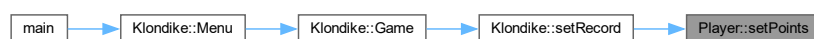
**Parameters**

<i>password</i>	Password
-----------------	----------

**4.6.2.13 setPoints()**

```
void Player::setPoints (
    int points )
```

Setting a fixed value of points method Here is the caller graph for this function:

**4.6.2.14 setTimeRecord()**

```
void Player::setTimeRecord (
    std::string timeRecord )
```

Setting time record method.

**Parameters**

<i>timeRecord</i>	Time record (xx::yy::zz)
-------------------	--------------------------

Here is the caller graph for this function:



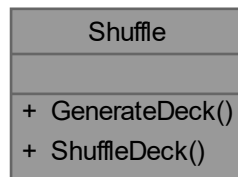
The documentation for this class was generated from the following files:

- [Player.h](#)
- [Player.cpp](#)

**4.7 Shuffle Class Reference**

```
#include <Shuffle.h>
```

Collaboration diagram for Shuffle:



### Static Public Member Functions

- static `std::vector< Card > GenerateDeck ()`
- static `std::vector< Card > ShuffleDeck (std::vector< Card > Deck)`

## 4.7.1 Member Function Documentation

### 4.7.1.1 GenerateDeck()

```
std::vector< Card > Shuffle::GenerateDeck ( ) [static]
```

Generating deck method Here is the caller graph for this function:



### 4.7.1.2 ShuffleDeck()

```
std::vector< Card > Shuffle::ShuffleDeck (
    std::vector< Card > Deck ) [static]
```

Shuffling deck method.

#### Parameters

<i>Deck</i>	Deck we want to shuffle
-------------	-------------------------

Here is the caller graph for this function:



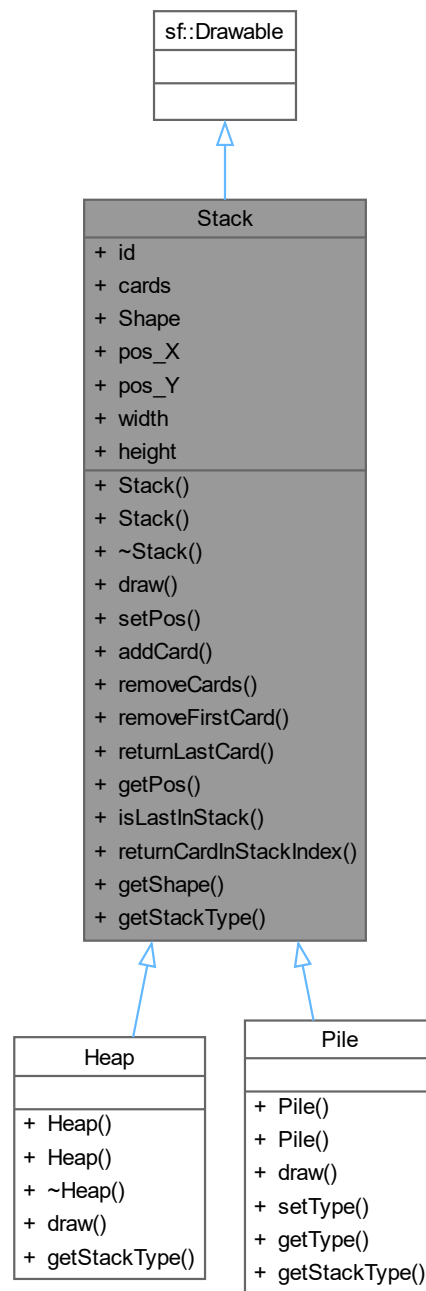
The documentation for this class was generated from the following files:

- [Shuffle.h](#)
- [Shuffle.cpp](#)

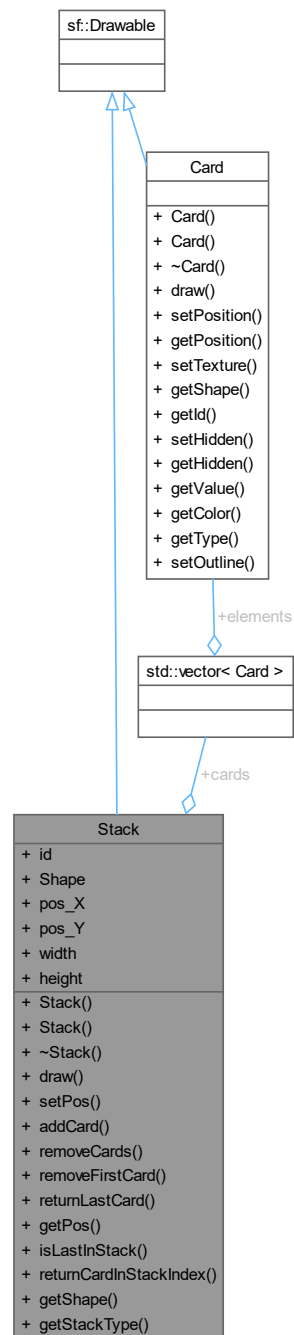
## 4.8 Stack Class Reference

```
#include <Stack.h>
```

Inheritance diagram for Stack:



Collaboration diagram for Stack:



## Public Member Functions

- [Stack](#) (const int number, float RectangleX, float RectangleY, std::string stackType)
- [Stack](#) ()
- [~Stack](#) ()=default
- virtual void [draw](#) (RenderTarget &target, RenderStates state) const override
- virtual void [setPos](#) (float x, float y)

- virtual void [addCard](#) ([Card](#) card)
- virtual void [removeCards](#) (int number)
- virtual void [removeFirstCard](#) ()
- virtual [Card](#) [returnLastCard](#) ()
- std::pair< float, float > [getPos](#) ()
- bool [isLastInStack](#) ([Card](#) &card)
- int [returnCardInStackIndex](#) (int card)
- [RectangleShape](#) [getShape](#) ()
- std::string [getStackType](#) ()

### Public Attributes

- int [id](#)
- std::vector< [Card](#) > [cards](#)
- [RectangleShape](#) [Shape](#)
- float [pos\\_X](#)
- float [pos\\_Y](#)
- const float [width](#) = 60
- const float [height](#) = 90

## 4.8.1 Constructor & Destructor Documentation

### 4.8.1.1 [Stack\(\)](#) [1/2]

```
Stack::Stack (
    const int number,
    float RectangleX,
    float RectangleY,
    std::string stackType )
```

[Stack](#) constructor.

#### Parameters

<i>number</i>	<a href="#">Stack</a> ID
<i>RectangleX</i>	<a href="#">Stack</a> position (x)
<i>RectangleY</i>	<a href="#">Stack</a> position (y)
<i>stackType</i>	<a href="#">Stack</a> type

### 4.8.1.2 [Stack\(\)](#) [2/2]

```
Stack::Stack ( )
```

[Stack](#) basic constructor

### 4.8.1.3 [~Stack\(\)](#)

```
Stack::~~Stack ( ) [default]
```

[Stack](#) destructor

## 4.8.2 Member Function Documentation

### 4.8.2.1 addCard()

```
void Stack::addCard (
    Card card ) [virtual]
```

Adding card to stack's vector method.

#### Parameters

<i>card</i>	<a href="#">Card</a>
-------------	----------------------

Here is the caller graph for this function:



### 4.8.2.2 draw()

```
void Stack::draw (
    RenderTarget & target,
    RenderStates state ) const [override], [virtual]
```

Virtual drawing method (SFML)

Reimplemented in [Heap](#), and [Pile](#).

Here is the caller graph for this function:



### 4.8.2.3 getPos()

```
std::pair< float, float > Stack::getPos ( )
```

Getting position of stack (x,y) Here is the caller graph for this function:





#### 4.8.2.4 getShape()

```
RectangleShape Stack::getShape ( )
```

Getting stack's shape method (SFML) Here is the caller graph for this function:



#### 4.8.2.5 getStackType()

```
std::string Stack::getStackType ( )
```

Getting stack type method Here is the caller graph for this function:



#### 4.8.2.6 isLastInStack()

```
bool Stack::isLastInStack (
    Card & card )
```

Method that defines if card is last in stack's vector

Parameters

<i>card</i>	Card
-------------	------

Here is the call graph for this function:



Here is the caller graph for this function:



#### 4.8.2.7 removeCards()

```
void Stack::removeCards (
    int number ) [virtual]
```

Removing x cards from the back of stack's vector method.

##### Parameters

<i>number</i>	Number of cards we want to remove
---------------	-----------------------------------

Here is the caller graph for this function:



#### 4.8.2.8 removeFirstCard()

```
void Stack::removeFirstCard ( ) [virtual]
```

Removing first cards from vector method

#### 4.8.2.9 returnCardInStackIndex()

```
int Stack::returnCardInStackIndex (
    int card )
```

Method that returns index of last card in stack's vector Here is the caller graph for this function:



#### 4.8.2.10 returnLastCard()

```
Card Stack::returnLastCard ( ) [virtual]
```

Method returning last card in stack's vector Here is the caller graph for this function:



#### 4.8.2.11 setPos()

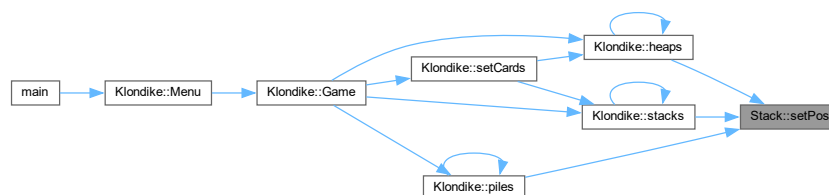
```
void Stack::setPos (
    float x,
    float y ) [virtual]
```

Virtual setting position method.

##### Parameters

<i>x</i>	X
<i>y</i>	Y

Here is the caller graph for this function:



### 4.8.3 Member Data Documentation

#### 4.8.3.1 cards

```
std::vector<Card> Stack::cards
```

Vector of cards assigned to that stack

#### 4.8.3.2 height

```
const float Stack::height = 90
```

[Stack](#) height (y)

#### 4.8.3.3 id

```
int Stack::id
```

[Stack](#) ID

#### 4.8.3.4 pos\_X

```
float Stack::pos_X
```

[Stack](#) position (x)

#### 4.8.3.5 pos\_Y

```
float Stack::pos_Y
```

[Stack](#) position (y)

#### 4.8.3.6 Shape

```
RectangleShape Stack::Shape
```

Shape of the stack (SFML)

#### 4.8.3.7 width

```
const float Stack::width = 60
```

[Stack](#) width (x)

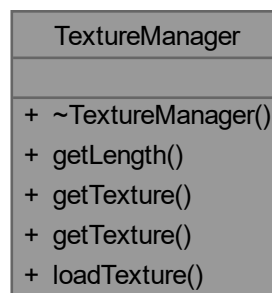
The documentation for this class was generated from the following files:

- [Stack.h](#)
- [Stack.cpp](#)

## 4.9 TextureManager Class Reference

```
#include <TextureManager.h>
```

Collaboration diagram for TextureManager:



## Public Member Functions

- [~TextureManager](#) ()

## Static Public Member Functions

- static int [getLength](#) ()
- static sf::Texture \* [getTexture](#) (string name)
- static sf::Texture \* [getTexture](#) (int index)
- static sf::Texture \* [loadTexture](#) (string name, string path)

## 4.9.1 Constructor & Destructor Documentation

### 4.9.1.1 ~TextureManager()

```
TextureManager::~~TextureManager ( )
```

Destructor which deletes the textures previously loaded

## 4.9.2 Member Function Documentation

### 4.9.2.1 getLength()

```
int TextureManager::getLength ( ) [static]
```

### 4.9.2.2 getTexture() [1/2]

```
sf::Texture * TextureManager::getTexture (
    int index ) [static]
```

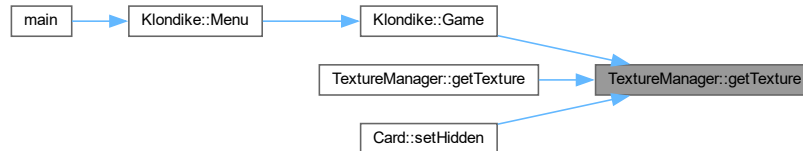
Get texture by index in map, or return null Here is the call graph for this function:



#### 4.9.2.3 `getTexture()` [2/2]

```
sf::Texture * TextureManager::getTexture (
    string name ) [static]
```

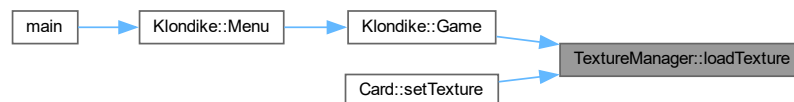
Get texture by name specified in `loadTexture`, or return null Here is the caller graph for this function:



#### 4.9.2.4 `loadTexture()`

```
sf::Texture * TextureManager::loadTexture (
    string name,
    string path ) [static]
```

Loads the texture and returns a pointer to it. If it is already loaded, this function just returns it. If it cannot find the file, returns NULL Here is the caller graph for this function:



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

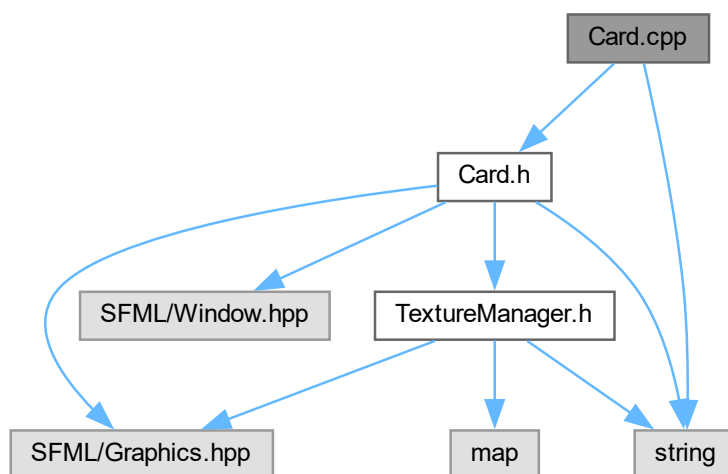
- [TextureManager.h](#)
- [TextureManager.cpp](#)

## Chapter 5

# File Documentation

### 5.1 Card.cpp File Reference

```
#include "Card.h"  
#include <string>  
Include dependency graph for Card.cpp:
```



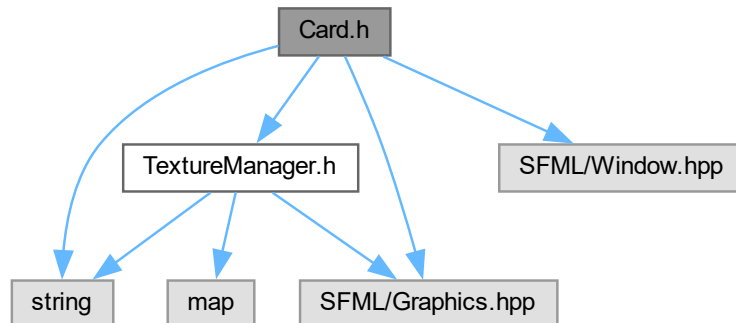
### 5.2 Card.h File Reference

[Card](#) class.

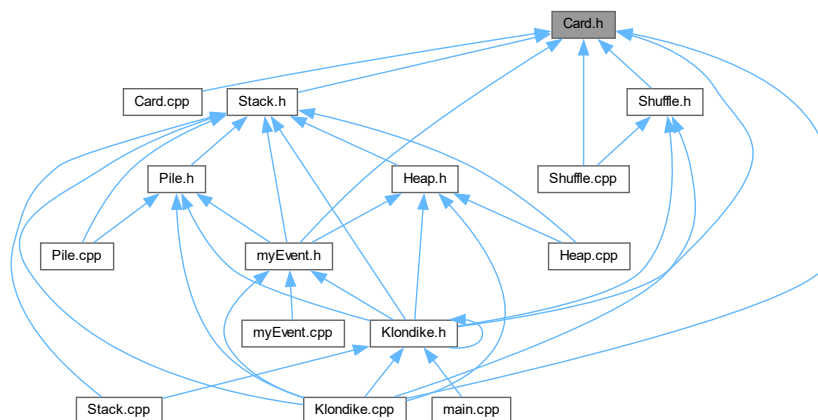
```
#include <string>  
#include <SFML/Graphics.hpp>  
#include <SFML/Window.hpp>
```

```
#include "TextureManager.h"
```

Include dependency graph for Card.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Card](#)

### 5.2.1 Detailed Description

[Card](#) class.

Author

Karol Ziaja

Date

August 2023



## 5.3 Card.h

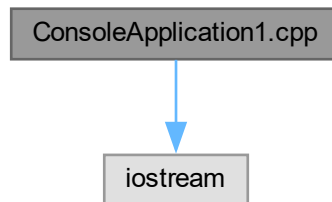
[Go to the documentation of this file.](#)

```
00001  /*****
00009  #pragma once
00010
00011  #include <string>
00012  #include <SFML/Graphics.hpp>
00013  #include <SFML/Window.hpp>
00014  #include "TextureManager.h"
00015
00016  using namespace sf;
00017
00018  class Card : public sf::Drawable {
00020      int index;
00022      int Value;
00024      std::string Color;
00026      std::string Type;
00028      std::string texturePath;
00030      RectangleShape cardShape;
00032      float width = 65;
00034      float height = 90;
00036      bool hidden;
00038      float currentPositionX;
00040      float currentPositionY;
00041  public:
00043      Card();
00045      Card(int index, int value, std::string Color, std::string Type, std::string texturePath);
00047      ~Card() = default;
00049      void draw(RenderTarget& target, RenderStates state) const override;
00051      void setPosition(float X, float Y);
00053      std::pair<float, float> getPosition();
00055      void setTexture();
00057      RectangleShape getShape();
00059      int getId();
00065      void setHidden(const bool i);
00067      bool getHidden();
00069      int getValue();
00071      std::string getColor();
00073      std::string getType();
00075      void setOutline();
00076  };
00077
00078  //1-A
00079  //2-2
00080  //3-3
00081  //4-4
00082  //5-5
00083  //6-6
00084  //7-7
00085  //8-8
00086  //9-9
00087  //10-10
00088  //11-J
00089  //12-Q
00090  //13-K
00091
```

## 5.4 ConsoleApplication1.cpp File Reference

```
#include <iostream>
```

Include dependency graph for ConsoleApplication1.cpp:



### Functions

- int `main` ()

### 5.4.1 Function Documentation

#### 5.4.1.1 main()

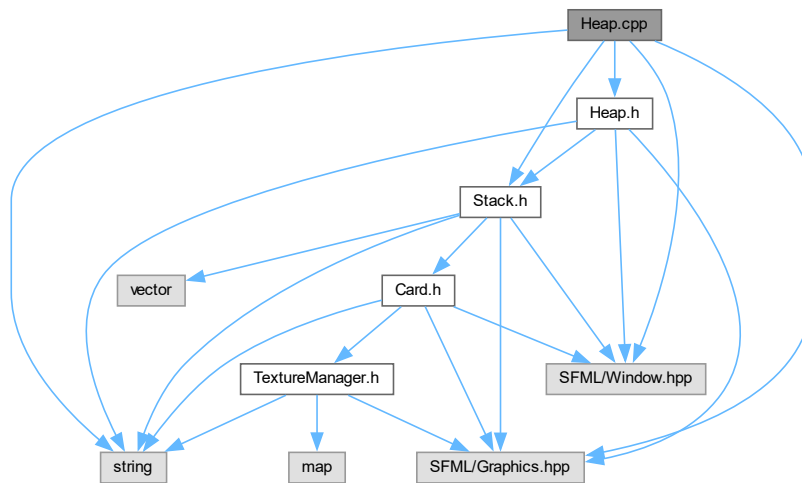
```
int main ( )
```

## 5.5 Heap.cpp File Reference

```
#include "Stack.h"  
#include "Heap.h"  
#include <SFML/Graphics.hpp>  
#include <SFML/Window.hpp>
```

```
#include <string>
```

Include dependency graph for Heap.cpp:



## 5.6 Heap.h File Reference

[Heap](#) of cards in top left corner (class)

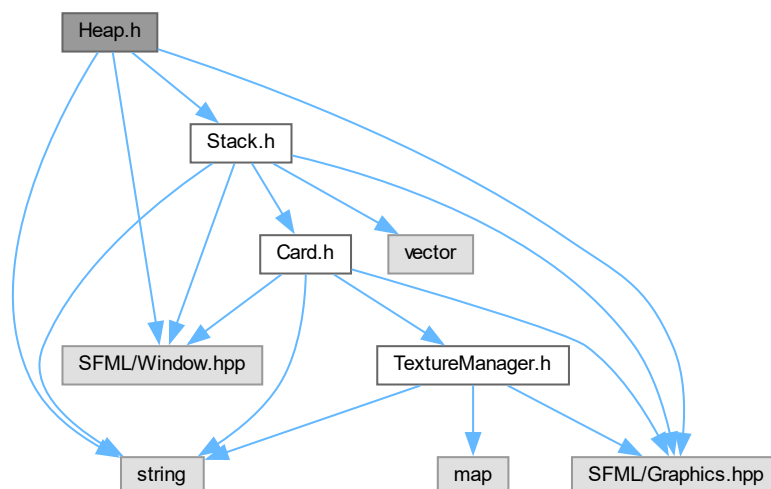
```
#include <string>
```

```
#include <SFML/Graphics.hpp>
```

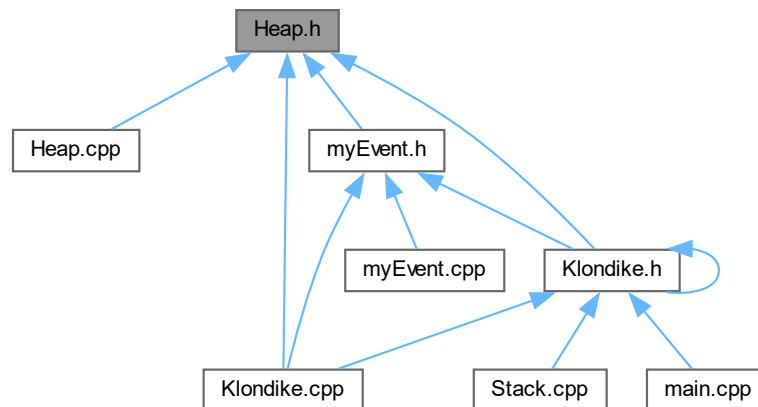
```
#include <SFML/Window.hpp>
```

```
#include "Stack.h"
```

Include dependency graph for Heap.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Heap](#)

### 5.6.1 Detailed Description

[Heap](#) of cards in top left corner (class)

#### Author

Karol Ziaja

#### Date

August 2023

## 5.7 Heap.h

[Go to the documentation of this file.](#)

```

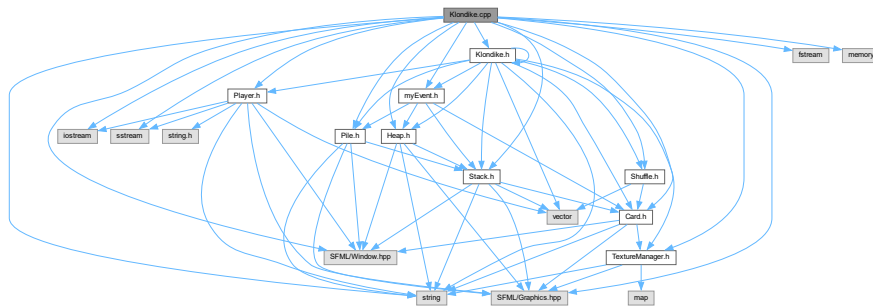
00001  /*****
00009  #pragma once
00010
00011  #include <string>
00012  #include <SFML/Graphics.hpp>
00013  #include <SFML/Window.hpp>
00014  #include "Stack.h"
00015  using namespace sf;
00016
00017  class Heap : public Stack {
00019      std::string stackType;
00020  public:
00022      Heap();
00024      Heap(float RectangleX, float RectangleY, std::string stackType);
00026      ~Heap() = default;
00028      void draw(RenderTarget& target, RenderStates state) const override;
00030      std::string getStackType();
00031  };

```

## 5.8 Klondike.cpp File Reference

```
#include <iostream>
#include <sstream>
#include <string>
#include <fstream>
#include "Klondike.h"
#include "Stack.h"
#include "Pile.h"
#include "Heap.h"
#include "Shuffle.h"
#include "myEvent.h"
#include "TextureManager.h"
#include "Card.h"
#include "Player.h"
#include <SFML/Graphics.hpp>
#include <SFML/Window.hpp>
#include <memory>
```

Include dependency graph for Klondike.cpp:

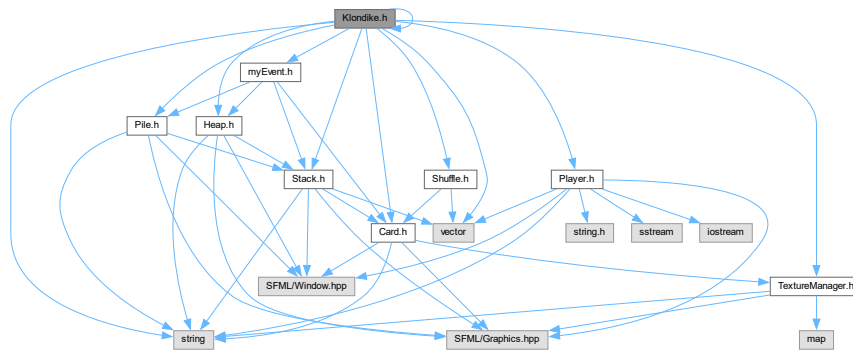


## 5.9 Klondike.h File Reference

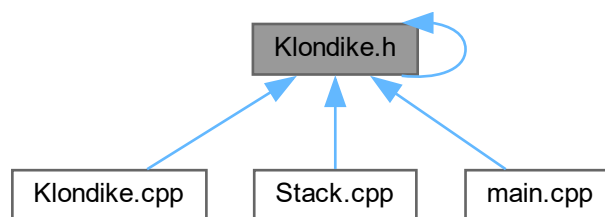
Main Game Class.

```
#include <vector>
#include <string>
#include "Klondike.h"
#include "Stack.h"
#include "Pile.h"
#include "Heap.h"
#include "Shuffle.h"
#include "myEvent.h"
#include "TextureManager.h"
#include "Card.h"
#include "Player.h"
```

Include dependency graph for Klondike.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Klondike](#)

## 5.9.1 Detailed Description

Main Game Class.

### Author

Karol Ziaja

### Date

August 2023

## 5.10 Klondike.h

[Go to the documentation of this file.](#)

```
00001 /*****
00009 #pragma once
00010
00011 #include <vector>
00012 #include <string>
00013 #include "Klondike.h"
00014 #include "Stack.h"
00015 #include "Pile.h"
00016 #include "Heap.h"
00017 #include "Shuffle.h"
00018 #include "myEvent.h"
00019 #include "TextureManager.h"
00020 #include "Card.h"
00021 #include "Player.h"
00022
00023 class Klondike {
00024 public:
00026     static std::pair<float, float> screenSize;
00028     static std::string choice;
00030     static Player player;
00032     static std::string login;
00034     static std::string password;
00036     static int record;
00038     static std::string timeRecord;
00040     static void Game();
00042     static void Menu();
00044     static void Register();
00046     static bool Login(std::string& loginPlayer, std::string& passwordPlayer, int& record, std::string&
timeRecord);
00048     static void setRecord(Player& player);
00050     static void Tutorial();
00052     static std::vector<Stack> stacks();
00054     static std::vector<Pile> piles();
00056     static std::vector<Heap> heaps();
00058     static std::vector<float> coords();
00068     static void setCards(std::vector<Stack> &stacks, std::vector<Pile> &piles, std::vector<Heap>
&heaps, std::vector<Card> &cards, std::vector<float>& coords);
00069 };
```

## 5.11 Lib.h File Reference

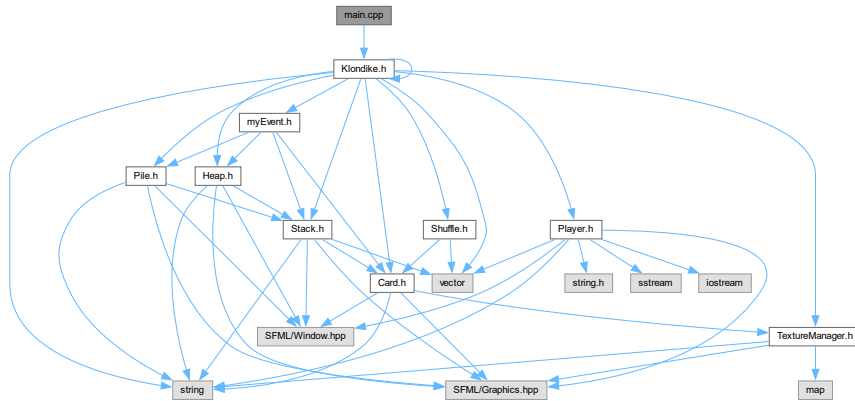
## 5.12 Lib.h

[Go to the documentation of this file.](#)

## 5.13 main.cpp File Reference

```
#include "Klondike.h"
```

Include dependency graph for main.cpp:



### Functions

- int [main](#) ()

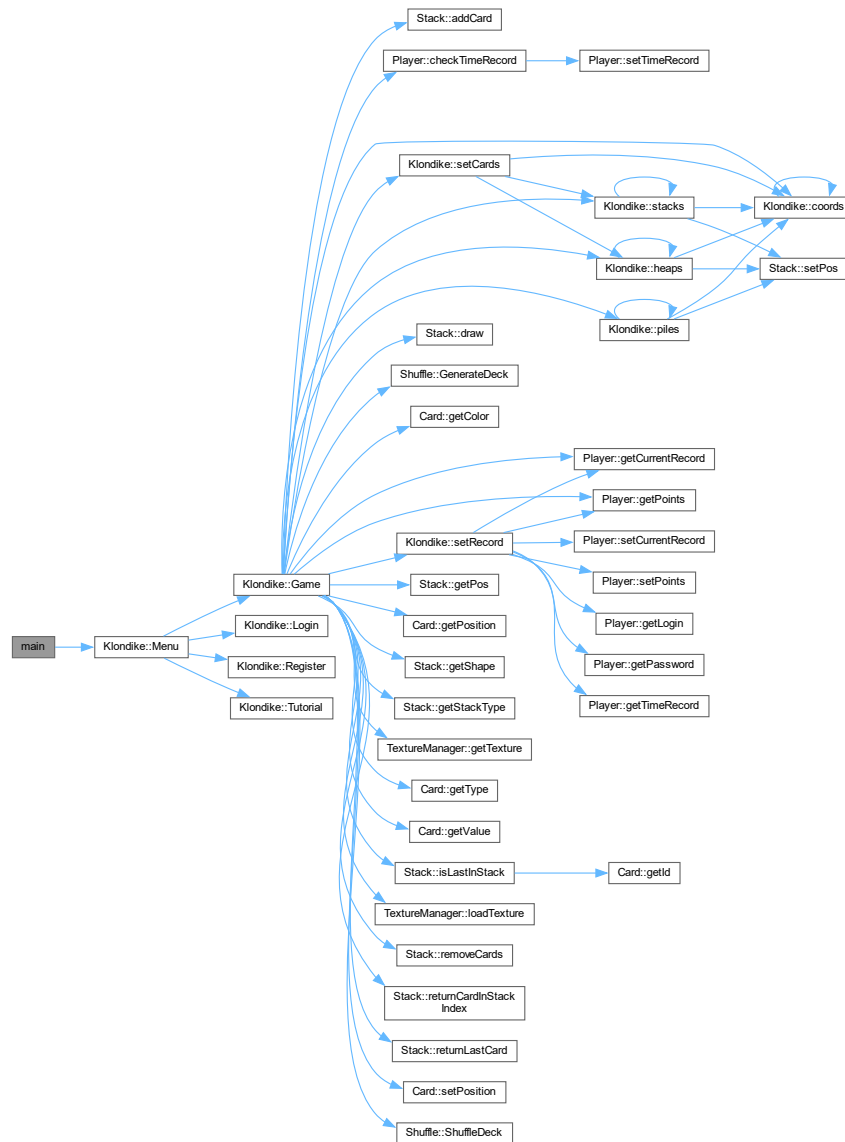
### 5.13.1 Function Documentation

#### 5.13.1.1 main()

```
int main ( )
```



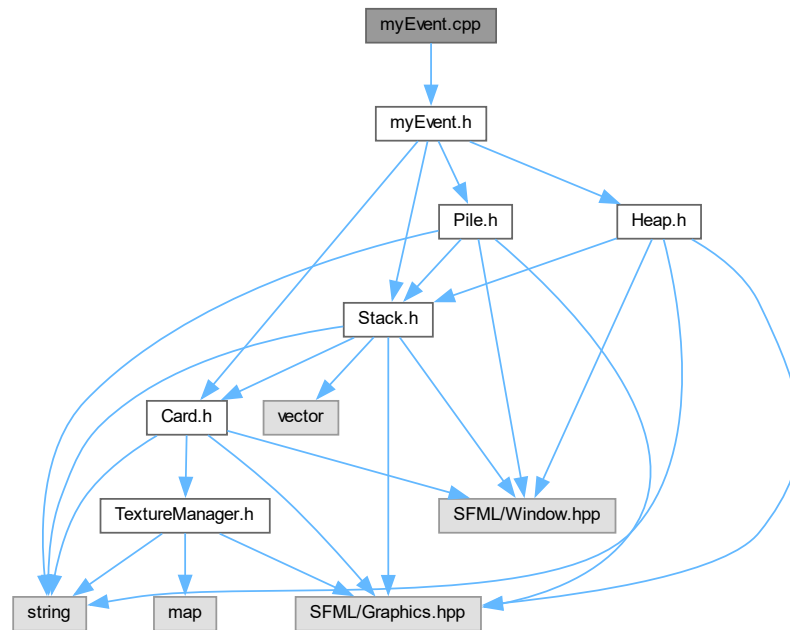
Here is the call graph for this function:



## 5.14 myEvent.cpp File Reference

```
#include "myEvent.h"
```

Include dependency graph for myEvent.cpp:

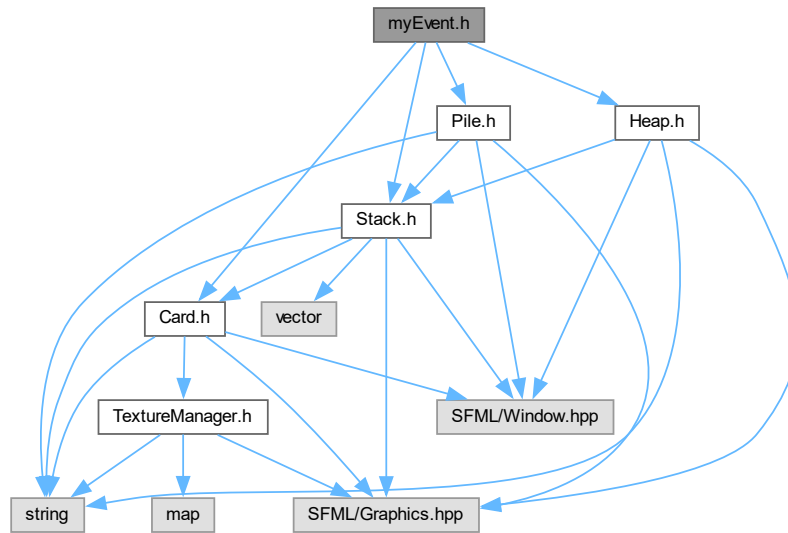


## 5.15 myEvent.h File Reference

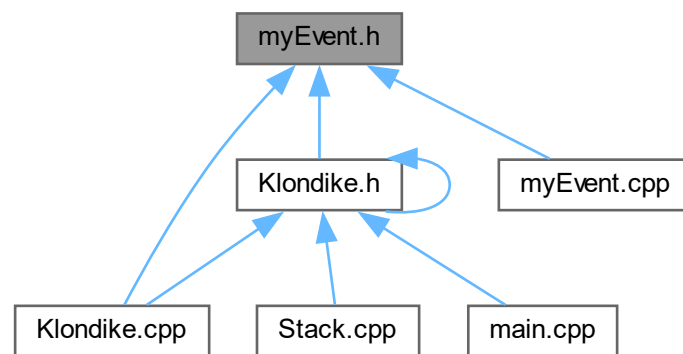
Class made to enable undoing movements. Named `myEvent` because Event already exists as a part of SFML library.

```
#include "Card.h"
#include "Stack.h"
#include "Pile.h"
#include "Heap.h"
```

Include dependency graph for myEvent.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [myEvent](#)

### 5.15.1 Detailed Description

Class made to enable undoing movements. Named [myEvent](#) because Event already exists as a part of SFML library.

**Author**

Karol Ziaja

**Date**

August 2023

**5.16 myEvent.h**[Go to the documentation of this file.](#)

```

00001 /*****
00009 #pragma once
00010
00011 #include "Card.h"
00012 #include "Stack.h"
00013 #include "Pile.h"
00014 #include "Heap.h"
00015
00016 class myEvent {
00018     int type;
00020     int movedCardsAmount;
00022     Stack* grabbedStackPtr;
00024     Card destinationCard;
00026     Stack* destinationStackPtr;
00028     bool changedTexture;
00029 public:
00031     myEvent();
00041     myEvent(int type, int movedCardsAmount, Stack* grabbedStackPtr, Card& destinationCard, Stack*
destinationStackPtr);
00050     myEvent(int type, int movedCardsAmount, Stack* grabbedStackPtr, Stack* destinationStackPtr);
00057     myEvent(int type, int movedCardsAmount);
00059     int getType();
00061     int getMovedCardsAmount();
00063     Stack* getGrabbedStackPtr();
00065     Card getDestinationCard();
00067     Stack* getDestinationStackPtr();
00069     bool getChangedTexture();
00075     void setChangedTexture(bool x);
00076 };
00077
00078
00079 //Types
00080 //1-Card To Stack
00081 //2-Cards to Stack
00082 //3-King to Stack
00083 //4-King and more cards from Stack to Stack
00084 //5-Ace to Pile
00085 //6-Cards to Pile
00086 //7-empty heap1
00087 //8-card to heap2

```

**5.17 Pile.cpp File Reference**

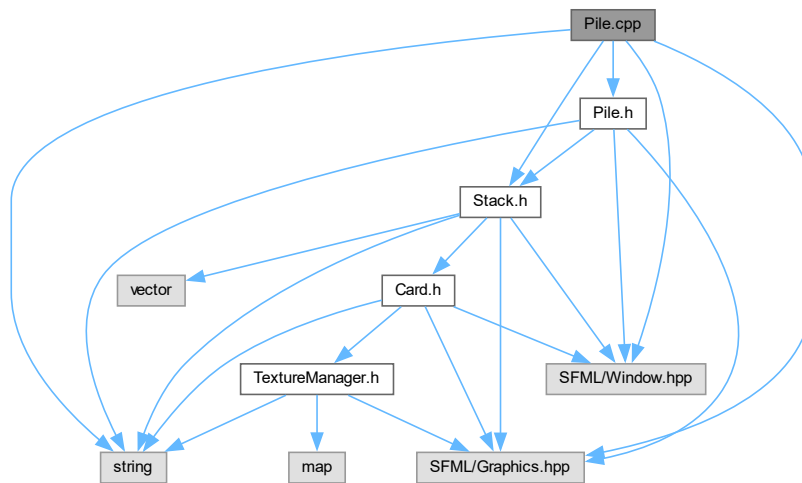
```

#include "Pile.h"
#include <SFML/Graphics.hpp>
#include <SFML/Window.hpp>
#include "Stack.h"

```

```
#include <string>
```

Include dependency graph for Pile.cpp:

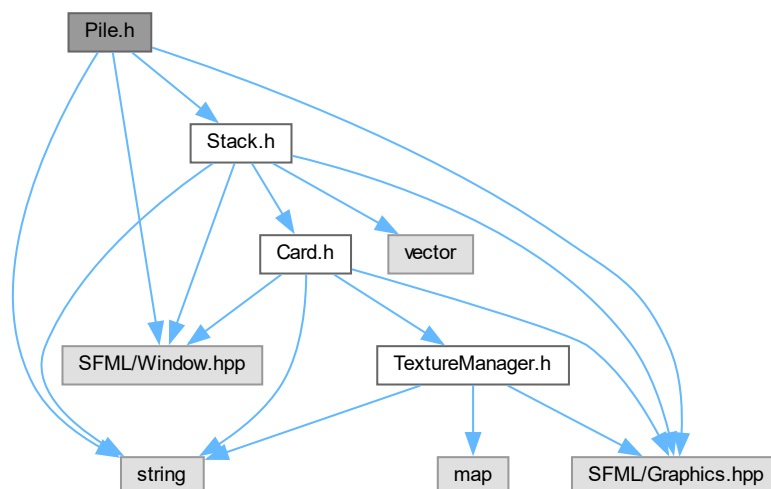


## 5.18 Pile.h File Reference

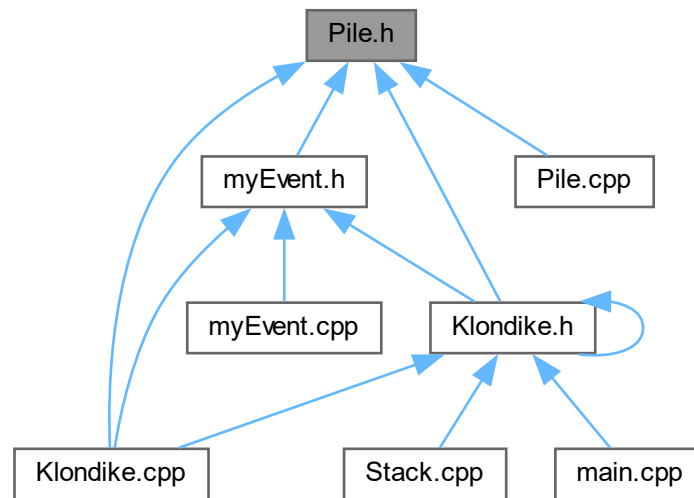
Four (collecting) piles of cards at the top (class)

```
#include "Stack.h"
#include <SFML/Graphics.hpp>
#include <SFML/Window.hpp>
#include <string>
```

Include dependency graph for Pile.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Pile](#)

### 5.18.1 Detailed Description

Four (collecting) piles of cards at the top (class)

#### Author

Karol Ziaja

#### Date

August 2023

## 5.19 Pile.h

[Go to the documentation of this file.](#)

```

00001  /*****
00009  #pragma once
00010
00011  #include "Stack.h"
00012  #include <SFML/Graphics.hpp>
00013  #include <SFML/Window.hpp>
00014  #include <string>
00015  using namespace sf;
00016
00017  class Pile : public Stack {

```

```

00019     std::string Type;
00021     std::string stackType;
00022 public:
00024     File();
00032     File(float RectangleX, float RectangleY, std::string stackType);
00034     void draw(RenderTarget& target, RenderStates state) const override;
00040     void setType(std::string x);
00042     std::string getType();
00044     std::string getStackType();
00045 };

```

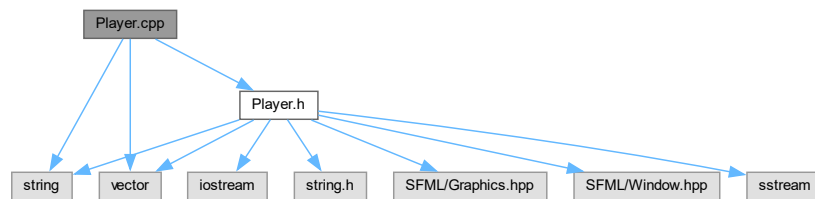
## 5.20 Player.cpp File Reference

```

#include "Player.h"
#include <string>
#include <vector>

```

Include dependency graph for Player.cpp:



## 5.21 Player.h File Reference

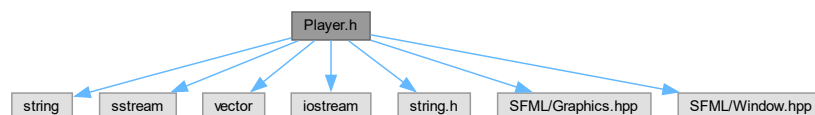
Current player data class.

```

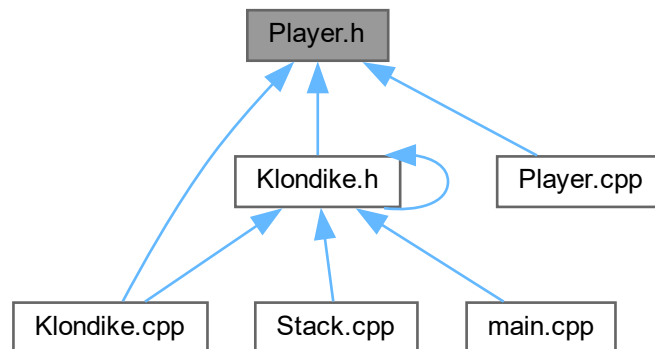
#include <string>
#include <sstream>
#include <vector>
#include <iostream>
#include <string.h>
#include <SFML/Graphics.hpp>
#include <SFML/Window.hpp>

```

Include dependency graph for Player.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Player](#)

### 5.21.1 Detailed Description

Current player data class.

#### Author

Karol Ziaja

#### Date

August 2023

## 5.22 Player.h

[Go to the documentation of this file.](#)

```

00001 /*****
00009 #pragma once
00010
00011 #include <string>
00012 #include <sstream>
00013 #include <vector>
00014 #include <iostream>
00015 #include <string.h>
00016 #include <SFML/Graphics.hpp>
00017 #include <SFML/Window.hpp>
00018 using namespace sf;
00019
00020 class Player {
00022     int points;
00024     int currentRecord;
00026     std::string Login;
00028     std::string Password;

```



```

00030     std::string timeRecord;
00031 public:
00032     void addPoints(int points);
00033     int getPoints();
00034     void setPoints(int points);
00035     void setCurrentRecord(int record);
00036     int getCurrentRecord();
00037     void setLogin(std::string login);
00038     std::string getLogin();
00039     void setPassword(std::string password);
00040     std::string getPassword();
00041     void setTimeRecord(std::string timeRecord);
00042     std::string getTimeRecord();
00043     Player operator+(int points);
00044     Player operator-(int points);
00045     Player(std::string login, std::string password, int record, std::string timeRecord);
00046     void checkTimeRecord(Text& time, int hours, int minutes, int seconds);
00047 };

```

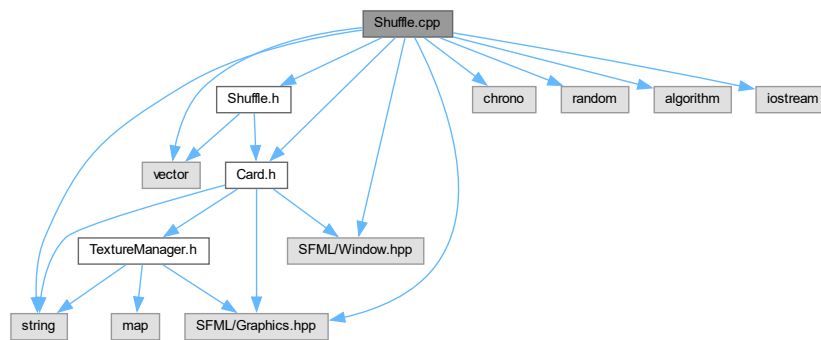
## 5.23 Shuffle.cpp File Reference

```

#include "Shuffle.h"
#include "Card.h"
#include <chrono>
#include <random>
#include <algorithm>
#include <iostream>
#include <vector>
#include <string>
#include <SFML/Graphics.hpp>
#include <SFML/Window.hpp>

```

Include dependency graph for Shuffle.cpp:



## 5.24 Shuffle.h File Reference

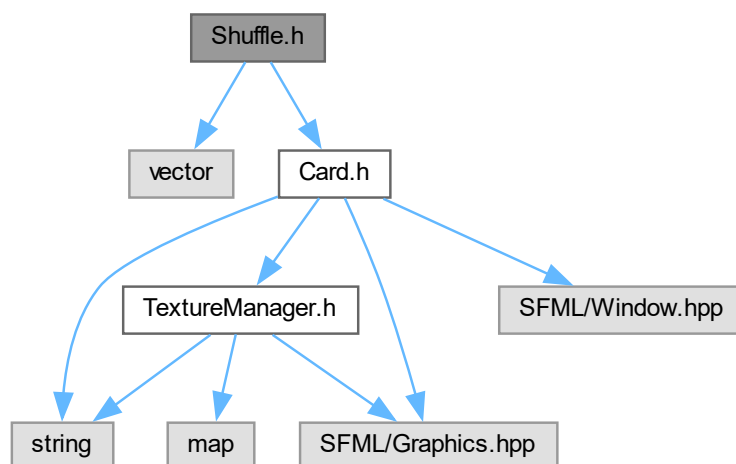
Class being used to generate and shuffle card deck.

```

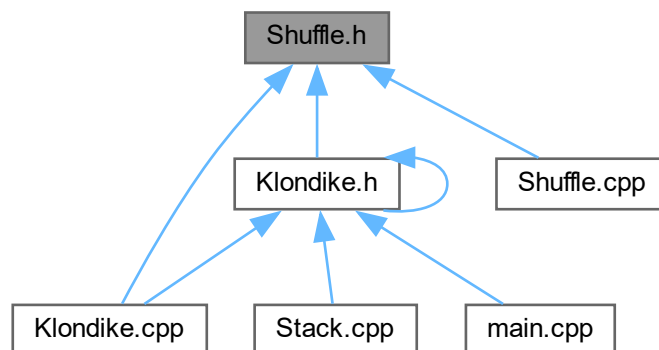
#include <vector>
#include "Card.h"

```

Include dependency graph for Shuffle.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class [Shuffle](#)

### 5.24.1 Detailed Description

Class being used to generate and shuffle card deck.

## Author

Karol Ziaja

## Date

August 2023

## 5.25 Shuffle.h

[Go to the documentation of this file.](#)

```

00001  /*****
00009  #pragma once
00010
00011  #include <vector>
00012  #include "Card.h"
00013
00014  class Shuffle {
00015  public:
00017      static std::vector<Card> GenerateDeck();
00023      static std::vector<Card> ShuffleDeck(std::vector<Card> Deck);
00024  };

```

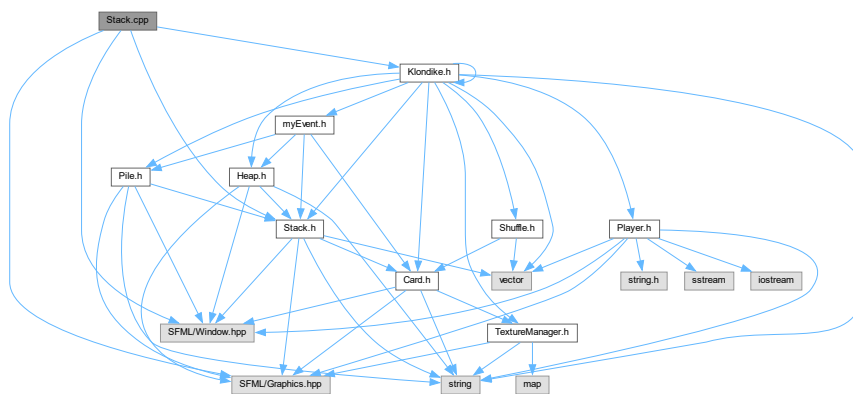
## 5.26 Stack.cpp File Reference

```

#include "Stack.h"
#include <SFML/Graphics.hpp>
#include <SFML/Window.hpp>
#include "Klondike.h"

```

Include dependency graph for Stack.cpp:



## 5.27 Stack.h File Reference

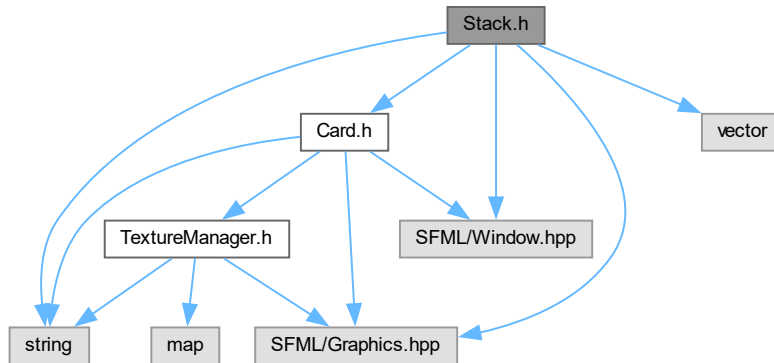
[Stack](#) class, heap and pile classes inherit from this class.

```

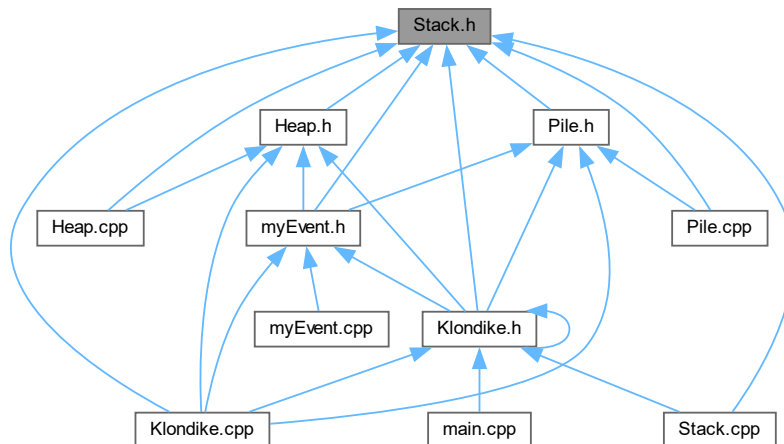
#include "Card.h"
#include <string>
#include <vector>

```

```
#include <SFML/Graphics.hpp>
#include <SFML/Window.hpp>
Include dependency graph for Stack.h:
```



This graph shows which files directly or indirectly include this file:



## Classes

- class [Stack](#)

### 5.27.1 Detailed Description

[Stack](#) class, `heap` and `pile` classes inherit from this class.

## Author

Karol Ziaja

## Date

August 2023

## 5.28 Stack.h

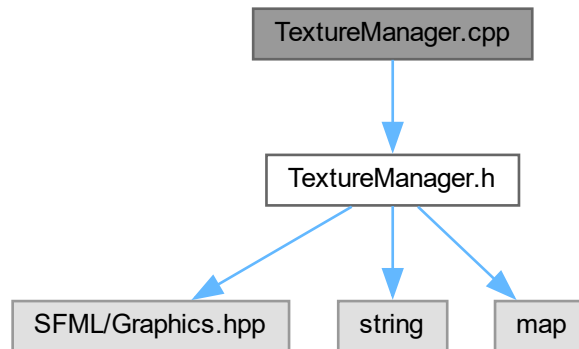
[Go to the documentation of this file.](#)

```
00001 /*****  
00009 #pragma once  
00010  
00011 #include "Card.h"  
00012 #include <string>  
00013 #include <vector>  
00014 #include <SFML/Graphics.hpp>  
00015 #include <SFML/Window.hpp>  
00016  
00017 using namespace sf;  
00018  
00019 class Stack : public sf::Drawable{  
00021     std::string stackType;  
00022 public:  
00024     int id;  
00026     std::vector<Card> cards;  
00028     RectangleShape Shape;  
00030     float pos_X;  
00032     float pos_Y;  
00034     const float width = 60;  
00036     const float height = 90;  
00045     Stack(const int number, float RectangleX, float RectangleY, std::string stackType);  
00047     Stack();  
00049     ~Stack() = default;  
00051     void virtual draw(RenderTarget& target, RenderStates state) const override;  
00058     void virtual setPos(float x, float y);  
00064     void virtual addCard(Card card);  
00070     void virtual removeCards(int number);  
00072     void virtual removeFirstCard();  
00074     Card virtual returnLastCard();  
00076     std::pair<float, float> getPos();  
00082     bool isLastInStack(Card& card);  
00084     int returnCardInStackIndex(int card);  
00086     RectangleShape getShape();  
00088     std::string getStackType();  
00089 };  
00090  
00091
```

## 5.29 TextureManager.cpp File Reference

```
#include "TextureManager.h"
```

Include dependency graph for TextureManager.cpp:



## 5.30 TextureManager.h File Reference

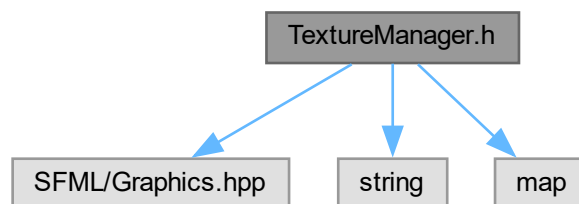
Class that manages all loaded textures from files.

```
#include <SFML/Graphics.hpp>
```

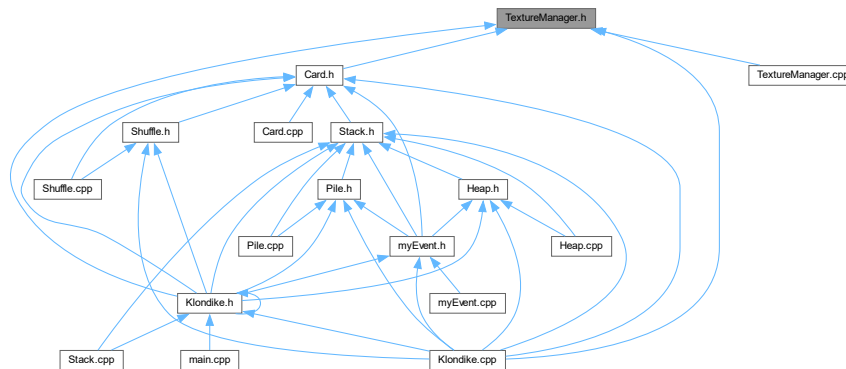
```
#include <string>
```

```
#include <map>
```

Include dependency graph for TextureManager.h:



This graph shows which files directly or indirectly include this file:



## Classes

- class TextureManager

### 5.30.1 Detailed Description

Class that manages all loaded textures from files.

### Author

<https://github.com/netpoetica>

Date \_\_\_\_\_

August 2023

## 5.31 TextureManager.h

[Go to the documentation of this file.](#)

```
00001  /***** Documentation of the file *****/
00009  #ifndef TEXTUREMANAGER_H
00010  #define TEXTUREMANAGER_H
00011
00012  #include <SFML/Graphics.hpp>
00013  #include <string>
00014  #include <map>
00015
00016  using namespace std;
00017
00018  class TextureManager
00019  {
00021      static map<string, sf::Texture> textures;
00022
00024      static std::vector<string> order;
00025
00027      TextureManager();
00028  public:
00030      ~TextureManager();
00031
00032      static int getLength();
00033
00035      static sf::Texture* getTexture(string name);
00036
00038      static sf::Texture* getTexture(int index);
00039
00041      static sf::Texture* loadTexture(string name, string path);
00042  };
00043
00044  #endif
```





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