

## Gravitational Force

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# Chapter 1

## Class Index

### 1.1 Class List

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

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## Chapter 2

# Class Documentation

### 2.1 canvas Class Reference

Class for Allegro 5 canvas initiation and animation handling.

```
#include <GravitationLib.h>
```

#### Public Member Functions

- **canvas** (int ix=1000, int iy=1000, const char \*ititle="3D program")
- void **keyframe** ()
- bool **endCondition** ()
- bool **FrameInit** (ALLEGRO\_COLOR bg=al\_map\_rgb(0, 0, 0))

#### Public Attributes

- ALLEGRO\_EVENT\_QUEUE \* **eQueue** {}
- ALLEGRO\_DISPLAY \* **display** {}
- ALLEGRO\_MOUSE\_STATE **state**
- ALLEGRO\_KEYBOARD\_STATE **keyboard** {}
- ALLEGRO\_EVENT **event** {}

#### 2.1.1 Detailed Description

Class for Allegro 5 canvas initiation and animation handling.

##### Parameters

<i>x</i>	= width of an Allegro 5 window
<i>y</i>	= height of an Allegro 5 window

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

- GravitationLib.h
- GravitationLib.cpp

## 2.2 Line Struct Reference

Structure for defining line, the idea was to use it for mouse input.

```
#include <GravitationLib.h>
```

### Public Attributes

- double **x1**
- double **y1**
- double **x2**
- double **y2**

### 2.2.1 Detailed Description

Structure for defining line, the idea was to use it for mouse input.

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

- GravitationLib.h

## 2.3 Particle Class Reference

Class for [Particle](#) (or just element) with needed parameters.

```
#include <GravitationLib.h>
```

### Public Member Functions

- **Particle** (double tx, double ty, double tr, double tvx, double tvy, double tm)
- void [valueOfProp](#) (int index, double value)  
*Function for converting floating point values of relational values into right data type.*
- void [valueOfProp](#) (int index, string value)  
*Function for converting string values of relational values into right data type.*
- void [printAll](#) ()  
*Debuging function for printing particle data.*



## Public Attributes

- double **x**
- double **y**
- double **r**
- double **vx**
- double **vy**
- double **m**
- double **color** [3]
- string **name**
- double **mass**
- string **relation**
- double **distance**
- double **speed**

### 2.3.1 Detailed Description

Class for [Particle](#) (or just element) with needed parameters.

#### Parameters

<i>x</i>	= absolute (in px) horizontal position
<i>y</i>	= absolute (in px) vertical position
<i>r</i>	= radius of element (visual purposes)
<i>vx</i>	= velocity (or delta position) in horizontal vector
<i>vy</i>	= velocity (or delta position) in vertical vector
<i>m</i>	= true mass for calculating force
<i>rest</i>	= rest parameters was made for relational positioning, not absolute

### 2.3.2 Member Function Documentation

#### 2.3.2.1 valueOfProp() [1/2]

```
void Particle::valueOfProp (
    int index,
    double value )
```

Function for converting floating point values of relational values into right data type.

#### Parameters

<i>index</i>	= what data is to be changed
<i>value</i>	= value of data to be changed

### 2.3.2.2 valueOfProp() [2/2]

```
void Particle::valueOfProp (
    int index,
    string value )
```

Function for converting string values of relational values into right data type.

#### Parameters

<i>index</i>	= what data is to be changed
<i>value</i>	= value of data to be changed

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

- GravitationLib.h
- GravitationLib.cpp

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