

# Namespace BrusOgPotetgull.AirportLibrary

## Classes

### [Aircraft](#)

The Aircraft-class is a blueprint for how an aircraft would look like.

### [Airport](#)

This class is used to configure an airport and holds all its components.

### [ArrivingEventArgs](#)

Contains the arguments needed to handle the event for when an aircraft is landing.

### [ConnectionPoint](#)

This class represents a point of connection on the airport roadsystem. This can hold the connection one taxiway has to several others. Each taxiway has two connection points.

### [DepartingEventArgs](#)

Contains the arguments needed to handle the event for when an aircraft is departing.

### [Flight](#)

The Flight-class is defined with the aircraft that is used in the flight, together with some components on the airports its using. Examples of components: taxiways, gates and runways.

### [Flight.Arriving](#)

The Arriving-class represents an arriving flight. The class inherits from the Flight-class.

### [Flight.Departing](#)

The Departing-class represents a departing flight. The class inherits from the Flight-class.

### [Gate](#)

The gate class is used to define how a gate is designed. It holds fields for the status of the gate and allowed aircraft types.

### [Runway](#)

The runway class is used to define how a runway is designed. It is also used to conduct operations on the runway.

### [Taxiway](#)

The taxiway class is used to define how a taxiway is designed. It is also used to conduct operations on the taxiway.

### [Terminal](#)

The terminal class is an area in the airport that can host a set of gates.

# Class Aircraft

Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll







The Aircraft-class is a blueprint for how an aircraft would look like.

```
public class Aircraft
```

## Inheritance

[object](#)  ← Aircraft

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,  
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) 

# Constructors

## Aircraft(string, AircraftType, int, int, int, int)

Creates an aircraft.

```
public Aircraft(string name, AircraftType aircraftType, int maxSpeedInAir, int  
accelerationInAir, int maxSpeedOnGround, int accelerationOnGround)
```

## Parameters

name [string](#) 

What the aircraft is called.

aircraftType [AircraftType](#)

The model of the aircraft.

maxSpeedInAir [int](#) 

Maximum in-air speed (Kp/h).

accelerationInAir [int](#) 

The acceleration in-air (Kp/h).

`maxSpeedOnGround` [int](#)

Maximum on-ground speed (Kp/h).

`accelerationOnGround` [int](#)

acceleration on ground (Kp/h).

## Properties

### AccelerationInAir

Gets aircraft acceleration in air

```
public int AccelerationInAir { get; }
```

#### Property Value

[int](#)

int of the acceleration in the air

### AccelerationOnGround

Gets aircraft acceleration on ground

```
public int AccelerationOnGround { get; }
```

#### Property Value

[int](#)

int of acceleration on ground for aircraft

## AircraftType

Gets aircraft type

```
public string AircraftType { get; }
```

Property Value

[string](#)<sup>↗</sup>

string of the aircraft type

## AircraftTypeId

Gets aircraft type Id

```
public int AircraftTypeId { get; }
```

Property Value

[int](#)<sup>↗</sup>

int of the aircraft type id

## MaxSpeedInAir

Gets aircraft max speed in air

```
public int MaxSpeedInAir { get; }
```

Property Value

[int](#)<sup>↗</sup>

int of max air speed of plane

## MaxSpeedOnGround

Gets aircraft max speed on ground

```
public int MaxSpeedOnGround { get; }
```

## Property Value

[int](#)

int of the max speed on ground for the aircraft

## Name

Gets aircraft name

```
public string Name { get; }
```

## Property Value

[string](#)

string of the name of the aircraft

## OutOfService

Gets if aircraft is in service with bool

```
public bool OutOfService { get; }
```

## Property Value

[bool](#)

bool if out of service

## TailNumber

Gets aircraft tail number

```
public int TailNumber { get; }
```

## Property Value

[int](#)

int of the tailnumber of the aircraft

## Methods

### AddHistoryToAircraft(DateTime, string, string)

logging an event to the history of the aircraft.

```
public void AddHistoryToAircraft(DateTime time, string location, string message)
```

## Parameters

time [DateTime](#)

When the event took place.

location [string](#)

The location of the plane.

message [string](#)

The action of the plane.

### GetFullAircraftHistory()

Gets the history of the aircraft

```
public string GetFullAircraftHistory()
```

## Returns

[string](#)

returns aircraft history in string

## PrintAircraftHistoryForDay(int, int, int)

Reads through the list of the aircrafts history and prints out the log for that day

```
public void PrintAircraftHistoryForDay(int year, int month, int day)
```

### Parameters

year [int](#)

The year it checks

month [int](#)

The month it checks

day [int](#)

The day it checks

## PrintAircraftInformation()

Prints the information about the Aircraft.

```
public virtual void PrintAircraftInformation()
```

## PrintFullAircraftHistory()

Prints the full history of the plane.

```
public void PrintFullAircraftHistory()
```

# ToString()

This override the ToString() method that exists in all objects in c#

```
public override string ToString()
```

Returns

[string](#) 

A String with simple details about the aircraft.



# Class Airport

Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll

This class is used to configure an airport and holds all its components.

```
public class Airport
```

## Inheritance

[object](#) ↗ ← Airport

## Inherited Members

[object.Equals\(object\)](#) ↗ , [object.Equals\(object, object\)](#) ↗ , [object.GetHashCode\(\)](#) ↗ , [object.GetType\(\)](#) ↗ , [object.MemberwiseClone\(\)](#) ↗ , [object.ReferenceEquals\(object, object\)](#) ↗

# Constructors

## Airport(string, string, string)

Creates an airport without any components.

```
public Airport(string airportCode, string name, string location)
```

## Parameters

**airportCode** [string](#) ↗

The code for the airport. typically 3 letters. Eksample: RYG

**name** [string](#) ↗

The name of the airport.

**location** [string](#) ↗

Where the airport is located at.

# Properties

## AirportCode

gets airport code

```
public string AirportCode { get; }
```

### Property Value

[string](#)

string with the code of the airport

## AirportId

Gets airport id

```
public int AirportId { get; }
```

### Property Value

[int](#)

int value with airport id

## Location

gets airport location

```
public string Location { get; }
```

### Property Value

[string](#)

string with location of the airport

# Name

gets airport name

```
public string Name { get; }
```

## Property Value

[string](#) 

string with the name of the airport

# Methods

## AddArrivingFlight(Arriving)

Adds an arriving flight to this airport.

```
public void AddArrivingFlight(Flight.Arriving flight)
```

## Parameters

**flight** [Flight.Arriving](#)

The arriving flight that is added to the list.

## AddConnectionPoint(ConnectionPoint)

Adds a connection point to the taxiwaysystem

```
public void AddConnectionPoint(ConnectionPoint connection)
```

## Parameters

**connection** [ConnectionPoint](#)

ConnectionPoint point to connect two or more taxiways

# AddDailyArrivingFlight(int, Aircraft, DateTime, int, Airport, Gate, Taxiway, Runway)

Generates daily arriving flights. The first flight starts 24 hours after the value of the datetimeFlight object.

```
public void AddDailyArrivingFlight(int numberOfDays, Aircraft activeAircraft, DateTime
dateTimeFlight, int length, Airport arrivalAirport, Gate arrivalGate, Taxiway
arrivalTaxiway, Runway arrivalRunway)
```

## Parameters

**numberOfDays** [int](#)

The number of days the flight will do its flights.

**activeAircraft** [Aircraft](#)

The aircraft that is used for this flight.

**dateTimeFlight** [DateTime](#)

Date of the flight.

**length** [int](#)

Length of the flight in KM.

**arrivalAirport** [Airport](#)

The airport that the aircraft is arriving at.

**arrivalGate** [Gate](#)

The gate that the aircraft is arriving at.

**arrivalTaxiway** [Taxiway](#)

The taxiway that the aircraft is arriving at.

**arrivalRunway** [Runway](#)

The runway that the aircraft is arriving at.

# AddDailyDeparturingFlight(int, Aircraft, DateTime, int, Airport, Gate, Taxiway, Runway)

Generates daily departing flights. The first flight starts 24 hours after the value of the datetimeFlight object.

```
public void AddDailyDeparturingFlight(int numberOfDays, Aircraft activeAircraft, DateTime
dateTimeFlight, int length, Airport departureAirport, Gate departureGate, Taxiway
departureTaxiway, Runway departureRunway)
```

## Parameters

numberOfDays [int](#)

The number of days the flight will do its flights.

activeAircraft [Aircraft](#)

The aircraft that is used for this flight.

dateTimeFlight [DateTime](#)

Date of the flight.

length [int](#)

Length of the flight in KM.

departureAirport [Airport](#)

The airport that the aircraft departure from.

departureGate [Gate](#)

The gate that the aircraft departure from.

departureTaxiway [Taxiway](#)

The taxiway that the aircraft is using to departure from.

departureRunway [Runway](#)

The runway that the aircraft is departing from.

## AddDepartingFlight(Departing)

Adds an departing flight to this airport.

```
public void AddDepartingFlight(Flight.Departing flight)
```

### Parameters

**flight** [Flight.Departing](#)

The departing flight that is added to the list.

## AddGateToList(Gate)

Adds a gate to the airport.

```
public void AddGateToList(Gate gate)
```

### Parameters

**gate** [Gate](#)

The gate that is added to the list of gates at this airport.

## AddRunwayToList(Runway)

Adds a runway to the airport.

```
public void AddRunwayToList(Runway runway)
```

### Parameters

**runway** [Runway](#)

The runway that is being added to the list of runways at this airport.

## AddTaxiwayConnection(Taxiway, ConnectionPoint, ConnectionPoint)

creates the connection a taxiway has to connection points.

```
public void AddTaxiwayConnection(Taxiway taxiway, ConnectionPoint to, ConnectionPoint from)
```

### Parameters

**taxiway** [Taxiway](#)

The taxiway you want to create a connection for.

**to** [ConnectionPoint](#)

Connection point B (to)

**from** [ConnectionPoint](#)

Connection point A (from)

## AddTaxiwayToList(Taxiway)

Adds a taxiway to the airport.

```
public void AddTaxiwayToList(Taxiway taxiway)
```

### Parameters

**taxiway** [Taxiway](#)

The taxiway that is added to the list of taxiways for this airport.

## AddTerminalToList(Terminal)

Adds a terminal to the airport.

```
public void AddTerminalToList(Terminal terminal)
```

## Parameters

**terminal** [Terminal](#)

The terminal that is added to the list of terminals for this airport.

## AddWeeklyArrivingFlight(int, Aircraft, DateTime, int, Airport, Gate, Taxiway, Runway)

Generates weekly arriving flights. The first flight starts 1 week after the value of the datetimeFlight object.

```
public void AddWeeklyArrivingFlight(int numberOfWeeks, Aircraft activeAircraft, DateTime
dateTimeFlight, int length, Airport arrivalAirport, Gate arrivalGate, Taxiway
arrivalTaxiway, Runway arrivalRunway)
```

## Parameters

**numberOfWeeks** [int](#)

The number of weeks the flight will do its flights.

**activeAircraft** [Aircraft](#)

The aircraft that is used for this flight.

**dateTimeFlight** [DateTime](#)

Date of the flight.

**length** [int](#)

Length of the flight im KM.

**arrivalAirport** [Airport](#)

The airport that the aircraft is arriving at.

**arrivalGate** [Gate](#)

The gate that the aircraft is arriving at.

**arrivalTaxiway** [Taxiway](#)



The taxiway that the aircraft is arriving at.

arrivalRunway [Runway](#)

The runway that the aircraft is arriving at.

## AddWeeklyDeparturingFlight(int, Aircraft, DateTime, int, Airport, Gate, Taxiway, Runway)

Generates weekly departing flights. The first flight starts 1 week after the value of the datetimeFlight object.

```
public void AddWeeklyDeparturingFlight(int numberOfWeeks, Aircraft activeAircraft, DateTime
dateTimeFlight, int length, Airport departureAirport, Gate departureGate, Taxiway
departureTaxiway, Runway departureRunway)
```

### Parameters

numberOfWeeks [int](#)

The number of weeks the flight will do its flights.

activeAircraft [Aircraft](#)

The aircraft that is used for this flight.

dateTimeFlight [DateTime](#)

Date of the flight.

length [int](#)

Length of the flight in KM.

departureAirport [Airport](#)

The airport that the aircraft departure from.

departureGate [Gate](#)

The gate that the aircraft departure from.

departureTaxiway [Taxiway](#)

The taxiway that the aircraft is using to departure from.

departureRunway [Runway](#)

The runway that the aircraft is departing from.

## FindPath(Taxiway, Taxiway, List<Taxiway>)

Finds a path through the taxiway system from one taxiway to another.

```
public List<Taxiway> FindPath(Taxiway start, Taxiway end, List<Taxiway> calculatedRoute)
```

### Parameters

start [Taxiway](#)

start taxiway of the path.

end [Taxiway](#)

end taxiway of the path.

calculatedRoute [List](#) <[Taxiway](#)>

An empty list of taxiways to be returned as a path

### Returns

[List](#) <[Taxiway](#)>

Returns the path as a list of taxiway objects

## GenerateArrivingFlightTaxiwayPath(Arriving)

Generates a path from one taxiway to another for an arriving flight.

```
public List<Taxiway> GenerateArrivingFlightTaxiwayPath(Flight.Arriving flight)
```

### Parameters

**flight** [Flight.Arriving](#)

The Flight you want to generate a path for.

Returns

[List](#) [<Taxiway>](#)

Returns the path as a list of taxiway objects

Remarks

Only generates a path if the arrival gate on the flight is connected to one of the taxiways in the airport.

## GenerateDeparturingFlightTaxiwayPath(Departuring)

Generates a path from one taxiway to another for an departing flight.

```
public List<Taxiway> GenerateDeparturingFlightTaxiwayPath(Flight.Departing flight)
```

Parameters

**flight** [Flight.Departing](#)

The Flight you want to generate a path for.

Returns

[List](#) [<Taxiway>](#)

Returns the path as a list of taxiway objects

Remarks

Only generates a path if the departure gate on the flight is connected to one of the taxiways in the airport.

## GetAnotherAvailabelGateAtTheSameTerminal(string)

Finds an availabel gate at the same terminal of the initially desired gate.

```
public Gate GetAnotherAvailabelGateAtTheSameTerminal(string nameOfDesiredGate)
```

## Parameters

`nameOfDesiredGate` [string](#) 

Gate you initially wanted to use.

## Returns

[Gate](#)

A gate object

## Remarks

Will return null if there is no availabel gate at the terminal.

## GetArrivingFlights()

Gets all arriving flights for this airport.

```
public List<Flight> GetArrivingFlights()
```

## Returns

[List](#)  [Flight](#)

The list containing all arriving flights for this airport.

## GetDepartingFlights()

Gets all departing flights for this airport.

```
public List<Flight> GetDepartingFlights()
```

## Returns

[List](#) <[Flight](#)>

A list of departing flights.

## GetGateBasedOnGateName(string)

Returns a gate object based on the gatename provided.

```
public Gate GetGateBasedOnGateName(string gateName)
```

### Parameters

gateName [string](#)

Name of the gate you want to return.

### Returns

[Gate](#)

gate object

### Exceptions

[InvalidOperationException](#)

## GetGatesById(int)

Gets a single gate based on id.

```
public Gate GetGatesById(int gateId)
```

### Parameters

gateId [int](#)

The id of the gate that is desired.

### Returns

## [Gate](#)

The desired gate

## Exceptions

### [InvalidOperationException](#)

If airport has no gates or could not find any gates that matches the gates that exists in this airport.

## GetListGates()

Returns a list of all the gates at this airport.

```
public List<Gate> GetListGates()
```

Returns

[List](#)  [<Gate>](#)

A list of gates at this airport.

## GetListTaxiways()

Returns a list of all the taxiways at this airport.

```
public List<Taxiway> GetListTaxiways()
```

Returns

[List](#)  [<Taxiway>](#)

a list that contains all the taxiways at this airport.

## GetListTerminals()

Returns a list of all the terminals at this airport.

```
public List<Terminal> GetListTerminals()
```

Returns

[List](#) <[Terminal](#)>

A list of Terminals at this airport.

## GetRunwayList()

Returns a list of all the runways at this airport.

```
public List<Runway> GetRunwayList()
```

Returns

[List](#) <[Runway](#)>

A list of runways at this airport

## GetTaxiwaySystem()

Gets the taxiway system at this airport. This is a list of connection points between taxiways.

```
public List<ConnectionPoint> GetTaxiwaySystem()
```

Returns

[List](#) <[ConnectionPoint](#)>

A List of connection points.

## GetTerminalById(int)

Gets a single terminal based on id.

```
public Terminal GetTerminalById(int terminalId)
```

## Parameters

**terminalId** [int](#)↗

The id of the terminal that is desired.

## Returns

[Terminal](#)

The desired terminal

## Exceptions

[InvalidOperationException](#)↗

If airport has no terminals or could not find any terminals that matches the terminals that exists in this airport.

## MakeAllGatesAllowAllAircraftTypes()

Makes all gates in this airport allow all aircraft types.

```
public void MakeAllGatesAllowAllAircraftTypes()
```

## PrintAirportInformation()

Prints out the information about the airport.

```
public void PrintAirportInformation()
```

## PrintListOfDeparturingFlights()

Prints out information about every flight in the list of departing flights for this airport.



```
public void PrintListOfDeparturingFlights()
```

## PrintTaxiwayRoute(List<Taxiway>)

Prints out the name of all the taxiways in the route, and the total number of taxiways.

```
public void PrintTaxiwayRoute(List<Taxiway> route)
```

### Parameters

route [List](#) <[Taxiway](#)>

The route you want to print out to the console

## PrintTaxiwaySystem()

Prints out the information about the taxiwaysystem (All the connected components).

```
public void PrintTaxiwaySystem()
```

## RemoveArrivingFlight(Arriving)

Removes an arriving flight from this airport.

```
public void RemoveArrivingFlight(Flight.Arriving flight)
```

### Parameters

flight [Flight.Arriving](#)

The arriving flight that is removed from the list.

## RemoveDepartingFlight(Departing)

Removes a departing flight from this airport.

```
public void RemoveDepartingFlight(Flight.Departing flight)
```

## Parameters

flight [Flight.Departing](#)

The departing flight that is removed from the list.

## RemoveGateFromList(Gate)

Removes a gate from the airport.

```
public void RemoveGateFromList(Gate gate)
```

## Parameters

gate [Gate](#)

The gate that is removed from the list of gates at this airport.

## RemoveRunwayFromList(Runway)

Removes a runway from the airport.

```
public void RemoveRunwayFromList(Runway runway)
```

## Parameters

runway [Runway](#)

The taxiway that is removed from the list of taxiways at this airport.

## RemoveTaxiwayFromList(Taxiway)

Removes a taxiway from the airport.

```
public void RemoveTaxiwayFromList(Taxiway taxiway)
```

## Parameters

taxiway [Taxiway](#)

The taxiway that is removed from the list of taxiways at this airport.

## RemoveTerminalFromList(Terminal)

Removes a terminal from the airport.

```
public void RemoveTerminalFromList(Terminal terminal)
```

## Parameters

terminal [Terminal](#)

The terminal that is removed from the list of terminals for this airport.

## ToString()

This override the ToString() method that exists in all objects in c#

```
public override string ToString()
```

## Returns

[string](#) 

A String with simple details about the Airport.

# Class ArrivingEventArgs

Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll









Contains the arguments needed to handle the event for when an aircraft is landing.

```
public class ArrivingEventArgs : EventArgs
```

## Inheritance

[object](#)  ← [EventArgs](#)  ← ArrivingEventArgs

## Inherited Members

[EventArgs.Empty](#)  , [object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#)  , [object.ToString\(\)](#) 

## Constructors

### ArrivingEventArgs(Arriving, DateTime, string)

Sets the arguments for an arriving aircraft so that an event can be handled.

```
public ArrivingEventArgs(Flight.Arriving flight, DateTime time, string message)
```

## Parameters

**flight** [Flight.Arriving](#)

The flight that is being handled by the event

**time** [DateTime](#) 

The time of the event

**message** [string](#) 

A message of what occurred at the time of the event

# Properties

## Flight

Gets the arriving flight details.

```
public Flight.Arriving Flight { get; }
```

### Property Value

[Flight.Arriving](#)

Arriving flight object of flight arriving at runway

## Message

Gets the message related to the event.

```
public string Message { get; }
```

### Property Value

[string](#) 

string of message related to event

## Time

Gets the time associated with the event.

```
public DateTime Time { get; }
```

### Property Value

[DateTime](#) 

DateTime object of time aircraft arrives at runway

# Class ConnectionPoint


Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll







This class represents a point of connection on the airport roadsystem. This can hold the connection one taxiway has to several others. Each taxiway has two connection points.

```
public class ConnectionPoint
```

## Inheritance

[object](#)  ← ConnectionPoint

## Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#) 

## Constructors

### ConnectionPoint(string, Airport)

Creates a connection point in the taxiway system.

```
public ConnectionPoint(string name, Airport airport)
```

## Parameters

**name** [string](#) 

Name of the connection point

**airport** [Airport](#)

The airport that the ConnectionPoint will be located at.

## Properties

# Name

Gets the name of the connection poin

```
public string? Name { get; set; }
```

## Property Value

[string](#) 

string of name of connection point

# taxiways

Gets or sets the list of taxiways connected to the connectionPoint.

```
public List<Taxiway> taxiways { get; set; }
```

## Property Value

[List](#)  [<Taxiway>](#)

# Methods

## ToString()

This override the ToString() method that exists in all objects in c#

```
public override string ToString()
```

## Returns

[string](#) 

A String with simple details about the ConnectionPoint.

# Class DepartingEventArgs

Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll









Contains the arguments needed to handle the event for when an aircraft is departing.

```
public class DepartingEventArgs : EventArgs
```

## Inheritance

[object](#)  ← [EventArgs](#)  ← DepartingEventArgs

## Inherited Members

[EventArgs.Empty](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#) 

## Constructors

### DepartingEventArgs(Departing, DateTime, string)

Sets the arguments for a departing aircraft so that an event can be handled.

```
public DepartingEventArgs(Flight.Departing flight, DateTime time, string message)
```

## Parameters

**flight** [Flight.Departing](#)

The flight that is being handled by the event

**time** [DateTime](#) 

The time of the event

**message** [string](#) 

A message of what occurred at the time of the event



# Properties

## Flight

Gets the departing flight details.

```
public Flight.Departing Flight { get; }
```

### Property Value

[Flight.Departing](#)

departing flight object of flight departing runway

## Message

Gets the message related to the event.

```
public string Message { get; }
```

### Property Value

[string](#) 

string of message related to the event

## Time

Gets the time associated with the event.

```
public DateTime Time { get; }
```

### Property Value

[DateTime](#) 

datetime object of time aircraft leaves runway

# Class Flight

Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll

The Flight-class is defined with the aircraft that is used in the flight, together with some components on the airports its using. Examples of components: taxiways, gates and runways.

```
public abstract class Flight
```







## Inheritance

[object](#)  ← Flight

## Derived

[Flight.Arriving](#), [Flight.Departing](#)

## Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#) 

# Constructors

## Flight(Aircraft, DateTime, bool, int)

Creates a Flight-object. This must either be Arriving flight or departing flight.

```
protected Flight(Aircraft activeAircraft, DateTime dateTimeFlight, bool isArrivingFlight,  
int length)
```

## Parameters

**activeAircraft** [Aircraft](#)

The aircraft that is used for this flight.

**dateTimeFlight** [DateTime](#) 

Date of the flight.

`isArrivingFlight` [bool](#)

If the flight is an arriving flight, this value must be set to true.

`length` [int](#)

The length of the flight in KM.

## Fields

### taxiwayPath

Calculated route a flight takes on the taxiway system to get from a gate to a runway, or vice-versa

```
public List<Taxiway> taxiwayPath
```

Field Value

[List](#) <[Taxiway](#)>

list of taxiways that makes up the path / route

## Properties

### ActiveAircraft

Gets active aircraft

```
public Aircraft ActiveAircraft { get; }
```

Property Value

[Aircraft](#)

Aircraft object that is set to fly

## Clock

Gets or sets the time on clock

```
public DateTime Clock { get; set; }
```

Property Value

[DateTime](#)

DateTime value of the clock

## DateTimeFlight

Gets the time of the flight

```
public DateTime DateTimeFlight { get; }
```

Property Value

[DateTime](#)

DateTime object that decides when the flight is.

## FlightId

Gets flight id

```
public int FlightId { get; }
```

Property Value

[int](#)

Flight id that is associated with the flight

## IsArrivingFlight

Gets bool to se if flight is ariving or taking off

```
public bool IsArrivingFlight { get; }
```

## Property Value

[bool](#)

bool value that is true if flight is arriving and false if leaving

## Length

Gets flight length

```
public int Length { get; }
```

## Property Value

[int](#)

int value of the length of the flight

## Methods

### CalculateFlightMovement(int, int, int, int)

Calculates the movement of a flight object across a set length, and returning the time it took in seconds.

```
public double CalculateFlightMovement(int length, int initialSpeed, int speedChange,  
int maxSpeed)
```

## Parameters

**length** [int](#)

Travel distance in meters.

**initialSpeed** [int](#)

The speed at which the aircraft starts traversing the length (Kp/h).

**speedChange** [int](#)

The change in speed per second (Kp/h).

**maxSpeed** [int](#)

Maximum speed of the aircraft (Kp/h).

Returns

[double](#)

The time it takes to do the movement in seconds.

Remarks

The time returned is based on the length, and the speed of the aircraft each second

## CalculateTaxiwayPathTime()

This method calculates the time it takes to go through the taxiway-path.

```
public double CalculateTaxiwayPathTime()
```

Returns

[double](#)

The time it takes as a double-datatype.

## PrintTaxiwayPathTime()

Prints out the time it takes to go through the taxiway-path.

```
public void PrintTaxiwayPathTime()
```

## ToString()

This overrides the ToString() method that exists in all objects in c#

```
public override string ToString()
```

Returns

[string](#) 

A String with simple details about the Flight.

# Class Flight.Arriving

Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll







The Arriving-class represents an arriving flight. The class inherits from the Flight-class.

```
public class Flight.Arriving : Flight
```

## Inheritance

[object](#)  ← [Flight](#) ← Flight.Arriving

## Inherited Members

[Flight.FlightId](#) , [Flight.ActiveAircraft](#) , [Flight.DateTimeFlight](#) , [Flight.IsArrivingFlight](#) , [Flight.Length](#) , [Flight.taxiwayPath](#) , [Flight.Clock](#) , [Flight.CalculateFlightMovement\(int, int, int, int\)](#) , [Flight.CalculateTaxiwayPathTime\(\)](#) , [Flight.PrintTaxiwayPathTime\(\)](#) , [Flight.ToString\(\)](#) , [object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#) 

## Constructors

### Arriving(Aircraft, DateTime, int, Airport, Gate, Taxiway, Runway)

Creates an arriving flight object.

```
public Arriving(Aircraft activeAircraft, DateTime dateTimeFlight, int length, Airport  
arrivalAirport, Gate arrivalGate, Taxiway arrivalTaxiway, Runway arrivalRunway)
```

## Parameters

**activeAircraft** [Aircraft](#)

The aircraft that is used for this flight

**dateTimeFlight** [DateTime](#) 

Date of the flight.

**length** [int](#) 



Length of the flight in KM.

`arrivalAirport` [Airport](#)

The airport that the aircraft is arriving at.

`arrivalGate` [Gate](#)

The gate that the aircraft is arriving at.

`arrivalTaxiway` [Taxiway](#)

The taxiway that the aircraft is arriving at.

`arrivalRunway` [Runway](#)

The runway that the aircraft is arriving at.

## Properties

### ArrivalAirport

Gets the arrival airport

```
public Airport ArrivalAirport { get; }
```

Property Value

[Airport](#)

Airport object of the arrival airport of the flight

### ArrivalGate

Gets the arrival gate

```
public Gate ArrivalGate { get; }
```

Property Value

## [Gate](#)

Gate object of the arrival gate of the flight

## ArrivalRunway

gets the arrival runway

```
public Runway ArrivalRunway { get; }
```

## Property Value

### [Runway](#)

Runway object of the arrival runway of the flight

## ArrivalTaxiway

Gets the arrival taxiway

```
public Taxiway ArrivalTaxiway { get; }
```

## Property Value

### [Taxiway](#)

Taxiway object of the arrival taxiway of the flight

## Methods

### PrintFlightInformation()

Prints information about the flight. This includes the date, flights ID, length of the flight, modelname, runway id, taxiway id and gate id.

```
public void PrintFlightInformation()
```

# Class Flight.Departing

Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll







The Departing-class represents a departing flight. The class inherits from the Flight-class.

```
public class Flight.Departing : Flight
```

## Inheritance

[object](#)  ← [Flight](#) ← Flight.Departing

## Inherited Members

[Flight.FlightId](#) , [Flight.ActiveAircraft](#) , [Flight.DateTimeFlight](#) , [Flight.IsArrivingFlight](#) , [Flight.Length](#) , [Flight.taxiwayPath](#) , [Flight.Clock](#) , [Flight.CalculateFlightMovement\(int, int, int, int\)](#) , [Flight.CalculateTaxiwayPathTime\(\)](#) , [Flight.PrintTaxiwayPathTime\(\)](#) , [Flight.ToString\(\)](#) , [object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#) 

## Constructors

Departing(Aircraft, DateTime, int, Airport, Gate, Taxiway, Runway)

Creates a departing flight object.

```
public Departing(Aircraft activeAircraft, DateTime dateTimeFlight, int length, Airport departureAirport, Gate departureGate, Taxiway departureTaxiway, Runway departureRunway)
```

## Parameters

**activeAircraft** [Aircraft](#)

The aircraft that is used for this flight.

**dateTimeFlight** [DateTime](#) 

Date of the flight.

length [int](#)

Length of the flight in KM.

departureAirport [Airport](#)

The airport that the aircraft departure from.

departureGate [Gate](#)

The gate that the aircraft departure from.

departureTaxiway [Taxiway](#)

The taxiway that the aircraft is using to departure from.

departureRunway [Runway](#)

The runway that the aircraft is departing from.

## Properties

### DepartureAirport

Gets departure airport

```
public Airport DepartureAirport { get; }
```

Property Value

[Airport](#)

Airport object of the departure airport for the flight

### DepartureGate

Gets departure gate

```
public Gate DepartureGate { get; }
```

Property Value

[Gate](#)

Gate object of the departure gate for the flight

## DepartureRunway

Gets departure runway

```
public Runway DepartureRunway { get; }
```

Property Value

[Runway](#)

Runway object of the departure runway for the flight

## DepartureTaxiway

Gets departure taxiway

```
public Taxiway DepartureTaxiway { get; }
```

Property Value

[Taxiway](#)

Taxiway object of the departure taxiway for the flight

## Methods

### PrintFlightInformation()

Prints information about the flight. This includes the date, flights ID, length of the flight, modelname, runway id, taxiway id and gate id.

```
public void PrintFlightInformation()
```

# Class Gate

Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll







The gate class is used to define how a gate is designed. It holds fields for the status of the gate and allowed aircraft types.

```
public class Gate
```

## Inheritance

[object](#)  ← Gate

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,  
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) 

# Constructors

## Gate(string, Airport)

Creates a gate.

```
public Gate(string name, Airport airport)
```

## Parameters

name [string](#) 

string of gate name

airport [Airport](#)

Airport object

# Properties

## Id

Gets Id of gate

```
public int Id { get; }
```

### Property Value

[int](#)

int of gate id

## IsAvailable

Gets if gate is available with bool

```
public bool IsAvailable { get; }
```

### Property Value

[bool](#)

bool of if gate is available

## Name

gets gate name

```
public string Name { get; }
```

### Property Value

[string](#)

string of gate name

## Methods



## AddAircraftAllowedAtGate(AircraftType)

Adds an aircraft that will be able to use the gate.

```
public void AddAircraftAllowedAtGate(AircraftType aircraftType)
```

### Parameters

**aircraftType** [AircraftType](#)

An Enum that represents the id of an aircraftType that you want to enable access for the gate.

## AddMultipleAircraftAllowedAtGate(List<AircraftType>)

Adds multiple aircrafts that will be granted access to use the gate.

```
public void AddMultipleAircraftAllowedAtGate(List<AircraftType> aircraftTypeIds)
```

### Parameters

**aircraftTypeIds** [List](#) <[AircraftType](#)>

A list of ids of aircrafts that you want to enable access for the gate

## BookGate(Aircraft, DateTime)

An aircraft occupies a gate. And saves it in aircrafthistory for the aircraft. The gate is now unavalible for other aircrafts to use it.

```
public void BookGate(Aircraft aircraft, DateTime time)
```

### Parameters

**aircraft** [Aircraft](#)

The aircraft that is going to book the gate.

**time** [DateTime](#)

Used to log the history for the aircraft.

## CheckAircraftAllowedAtGate(Aircraft)

Checks if an aircraft can use the gate.

```
public bool CheckAircraftAllowedAtGate(Aircraft aircraft)
```

### Parameters

**aircraft** [Aircraft](#)

The aircraft you want to check if it has access or not.

### Returns

[bool](#)<sup>↗</sup>

'true' if it has access or 'false' if it does not.

## LeaveGate(Aircraft, DateTime)

An aircraft leaves the gate. And saves it in the aircraft history for the aircraft. The gate is now available for other aircrafts.

```
public void LeaveGate(Aircraft aircraft, DateTime time)
```

### Parameters

**aircraft** [Aircraft](#)

The aircraft that is going to leave the gate.

**time** [DateTime](#)<sup>↗</sup>

Used to log the history for the aircraft.

## MakeAllAircraftTypesAllowedForThisGate()

Grants all of the existing aircrafttypes access to use the gate.

```
public void MakeAllAircraftTypesAllowedForThisGate()
```

## PrintGateInformation()

Prints out the information about the gate.

```
public void PrintGateInformation()
```

## RemoveAircraftAllowedAtGate(AircraftType)

Removes an aircraft from being able to use the gate.

```
public void RemoveAircraftAllowedAtGate(AircraftType aircraftTypeId)
```

## Parameters

**aircraftTypeId** [AircraftType](#)

The id of an type of aircraft that you want to deny access to the gate.

## ToString()

This override the ToString() method that exists in all objects in c#

```
public override string ToString()
```

## Returns

[string](#) 

A String with simple details about the Gate.

## UpdateLocation(string)

Updates the airport the gate is located at.

```
public void UpdateLocation(string airportName)
```

## Parameters

airportName [string](#) 

Name of the airport that the gate will be updated to.

# Class Runway

Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll







The runway class is used to define how a runway is designed. It is also used to conduct operations on the runway.

```
public class Runway
```

## Inheritance

[object](#)  ← Runway

## Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#) 

# Constructors

## Runway(string, int, Airport)

creates a runway.

```
public Runway(string name, int length, Airport airport)
```

## Parameters

name [string](#) 

The name of the runway (meters).

length [int](#) 

The length of the runway (meters).

airport [Airport](#)

The airport that the taxiway will be located at.

# Properties

## Id

Gets the Id of the runway.

```
public int Id { get; }
```

## Property Value

[int](#)

int of id of runwat

## InUse

Gets a bool value i wheter the runway is in use or not.

```
public bool InUse { get; }
```

## Property Value

[bool](#)

bool if runway is in use

## Length

Gets the length of the runway.

```
public int Length { get; }
```

## Property Value

[int](#)

int of length of runway

## Name

Gets the name of the runway.

```
public String Name { get; }
```

## Property Value

[string](#) 

string of name of runway

## RunwayQueue

Gets the queue of flights waiting for the runway.

```
public Queue<Flight> RunwayQueue { get; }
```

## Property Value

[Queue](#)  [<Flight>](#)

## Methods

### AddFlightToQueue(Flight)

Adds a flight to the runway-queue.

```
public void AddFlightToQueue(Flight flight)
```

## Parameters

**flight** [Flight](#)

The flight you want to add to the runwayqueue.

## CheckNextFlightInQueue()

Returns the first flight in the runwayqueue.

```
public Flight CheckNextFlightInQueue()
```

Returns

[Flight](#)

Flight object that is first in line at the queue.

## ExitRunway(Flight, DateTime)

Method to signal that an aircraft has left the runway. Set the field inUse to false and logs to event

```
public void ExitRunway(Flight flight, DateTime time)
```

Parameters

**flight** [Flight](#)

Is the aircraft that is leaving the runway.

**time** [DateTime](#)

Is used to log the history of the aircraft.

Remarks

If the flight is a departing flight, the method RaiseFlightDeparted() triggers the FlightDeparted event.

## GetAirportNameAndRunwayId()

Returns the airport location aswell as the runwayname and id.

```
public string GetAirportNameAndRunwayId()
```

Returns



[string](#)

String that contain information about the runway.

## NextFlightEntersRunway()

This method lets the next flight in queue enter the runway.

```
public void NextFlightEntersRunway()
```

## PrintRunwayInformation()

Prints the information about the Runway.

```
public void PrintRunwayInformation()
```

## RaiseFlightArrived(Arriving, DateTime, string)

Method to trigger the event FlightArrived

```
protected virtual void RaiseFlightArrived(Flight.Arriving flight, DateTime time,  
string message)
```

### Parameters

**flight** [Flight.Arriving](#)

The flight which triggers the event

**time** [DateTime](#)

Time of the event

**message** [string](#)

Message of what occurred at the time of the event

## RaiseFlightDeparted(Departing, DateTime, string)

Method to trigger the event FlightDeparted

```
protected virtual void RaiseFlightDeparted(Flight.Departing flight, DateTime time, string message)
```

### Parameters

**flight** [Flight.Departing](#)

The flight which triggers the event

**time** [DateTime](#)

Time of the event

**message** [string](#)

Message of what occurred at the time of the event

## RemoveFromQueue()

Removes the first flight in the runwayqueue and returns it.

```
public Flight RemoveFromQueue()
```

### Returns

[Flight](#)

Flight object that is removed from the beginning of the queue.

## SimulateRunwayTime(Flight, int, int, int)

Returns the time in seconds that an aircraft uses on the runway. Given the length of runway is meters, and speed / speedChange is kph.

```
public double SimulateRunwayTime(Flight flight, int initialSpeed, int speedChange,
```

```
int maxSpeed)
```

## Parameters

**flight** [Flight](#)

The current flight.

**initialSpeed** [int](#)

The speed at which the aircraft starts with (Kp/h).

**speedChange** [int](#)

The change in speed (Kp/h).

**maxSpeed** [int](#)

Maximum speed for this calculation (Kp/h).

## Returns

[double](#)

Returns the method `flight.CalculateFlightMovement()` which is the time spent on the runway in seconds.

## ToString()

This override the `ToString()` method that exists in all objects in c#

```
public override string ToString()
```

## Returns

[string](#)

A String with simple details about the Runway.

## UpdateLocation(string)

Updates the airport the Runway is located at.

```
public void UpdateLocation(string airportName)
```

## Parameters

**airportName** [string](#)

Name of the airport that you want to update the location to.

## UseRunway(Flight, DateTime)

Method to signal that an aircraft is using the runway. Sets the field inUse to true and logs the event.

```
public void UseRunway(Flight flight, DateTime time)
```

## Parameters

**flight** [Flight](#)

Is the aircraft that uses the runway.

**time** [DateTime](#)

Is used to log the history of the aircraft.

## Remarks

If the flight is an arriving flight. The method RaiseFlightArrived is used to handle the event and logging.

## Events

### FlightArrived

Event to be used when a flight is arriving

```
public event EventHandler<ArrivingEventArgs>? FlightArrived
```

Event Type

[EventHandler](#) <[ArrivingEventArgs](#)>

## FlightDeparted

Event to be used when a flight is departing

```
public event EventHandler<DepartingEventArgs>? FlightDeparted
```

Event Type

[EventHandler](#) <[DepartingEventArgs](#)>

# Class Taxiway

Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll







The taxiway class is used to define how a taxiway is designed. It is also used to conduct operations on the taxiway.

```
public class Taxiway
```

## Inheritance

[object](#)  ← Taxiway

## Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  , [object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#) 

## Remarks

This is used to create the network of taxiways through connectionpoints and the lists of runway and gate connections.

## Constructors

Taxiway(string, int, int, Airport)

Creates a taxiway.

```
public Taxiway(string name, int length, int maxSpeed, Airport airport)
```

## Parameters

name [string](#) 

The name of the taxiway.

length [int](#) 

Length of the taxiway (meters).

**maxSpeed** [int](#)

Legal maxspeed for the taxiway (Kp/h).

**airport** [Airport](#)

The airport that the taxiway will be located at.

## Fields

### connectedGates

List of connected gates

```
public List<Gate> connectedGates
```

Field Value

[List](#) <[Gate](#)>

list of gate objects

### connectedRunways

list of connected runways

```
public List<Runway> connectedRunways
```

Field Value

[List](#) <[Runway](#)>

list of runway objects

## Properties

A

Gets or sets connectionpoint A

```
public ConnectionPoint A { get; set; }
```

Property Value

[ConnectionPoint](#)

connection point objet conected to end of road

## B

Gets or sets connectionpoint B

```
public ConnectionPoint B { get; set; }
```

Property Value

[ConnectionPoint](#)

connection point object connected to other end of road

## Id

gets Id of taxiway

```
public int Id { get; }
```

Property Value

[int](#)

int of id of taxiway

## Length

Gets the length of the Taxiway



```
public int Length { get; }
```

## Property Value

[int](#)

int of length of taxiway

## MaxSpeed

Gets max speed on taxiway

```
public int MaxSpeed { get; }
```

## Property Value

[int](#)

int of max sped on taxiway

## Name

Gets name of taxiway

```
public string Name { get; }
```

## Property Value

[string](#)

string of taxiway name

## Methods

### AddConnectedGate(Gate)

Adds a gate to the list of connected gates for this taxiway.

```
public void AddConnectedGate(Gate gate)
```

## Parameters

gate [Gate](#)

The gate that will be added to the list.

## AddConnectedRunway(Runway)

Adds a runway to the list of connected runways for this taxiway.

```
public void AddConnectedRunway(Runway runway)
```

## Parameters

runway [Runway](#)

The runway that will be added to the list.

## AddFlightToQueue(Flight, DateTime)

Adds an flight to the taxiwayqueue.

```
public void AddFlightToQueue(Flight flight, DateTime time)
```

## Parameters

flight [Flight](#)

The flight that is insertet into the queue.

time [DateTime](#)[↗](#)

Used to log the time the aircraft entered the queue.

## CheckNextFlightInQueue()

This method checks which flight is next in line for this taxiway.

```
public Flight CheckNextFlightInQueue()
```

Returns

[Flight](#)

The next flight object in the taxiwayqueue.

## GetNumberOfAircraftsInQueue()

Gets the number of aircrafts in the queue.

```
public int GetNumberOfAircraftsInQueue()
```

Returns

[int](#)<sup>↗</sup>

Returns the number of aircrafts as an int value

## NextFlightLeavesTaxiway(Flight, DateTime)

The aircraft first in line for taxiwayqueue leaves the taxiwayqueue.

```
public void NextFlightLeavesTaxiway(Flight flight, DateTime time)
```

Parameters

**flight** [Flight](#)

Used to log correct history for the used aircraft.

**time** [DateTime](#)<sup>↗</sup>

Used to log correct history for the used aircraft.

## PrintTaxiwayInformation()

Prints the information about the taxiway.

```
public void PrintTaxiwayInformation()
```

## RemoveConnectedGate(Gate)

Removes a gate from the list of connected gates for this taxiway.

```
public void RemoveConnectedGate(Gate gate)
```

### Parameters

gate [Gate](#)

The gate that will be removed from the list.

## RemoveConnectedRunway(Runway)

Removes a runway from the list of connected runways for this taxiway.

```
public void RemoveConnectedRunway(Runway runway)
```

### Parameters

runway [Runway](#)

The runway that will be removed from the list.

## SimulateTaxiwayTime(Flight, int, int, int, DateTime)

Simulates an aircraft using the taxiway and returns the time spent in seconds. This also logs when the aircraft starts using the taxiway.

```
public double SimulateTaxiwayTime(Flight flight, int initialSpeed, int speedChange, int
```

```
maxSpeed, DateTime time)
```

## Parameters

**flight** [Flight](#)

The flight thats is using the taxiway.

**initialSpeed** [int](#)

The speed at which the aircraft starts with (Kp/h).

**speedChange** [int](#)

The change in speed (Kp/h).

**maxSpeed** [int](#)

Maximum speed for this calculation (Kp/h).

**time** [DateTime](#)

Time when the aircraft starts using the taxiway.

## Returns

[double](#)

Returns the time spent on the taxiway in seconds ( type = double )

## ToString()

This override the ToString() method that exists in all objects in c#

```
public override string ToString()
```

## Returns

[string](#)

A String with simple details about the Taxiway.

# UpdateLocation(string)

Updates the airport the taxiway is located at.

```
public void UpdateLocation(string airportName)
```

## Parameters

airportName [string](#) 

Name of the airport the taxiway updates to.

# Class Terminal

Namespace: [BrusOgPotetgull.AirportLibrary](#)

Assembly: brusOgPotetgull.airportLibrary.dll







The terminal class is an area in the airport that can host a set of gates.

```
public class Terminal
```

## Inheritance

[object](#)  ← Terminal

## Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,  
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) 

# Constructors

## Terminal(string, Airport)

Creates a terminal.

```
public Terminal(string name, Airport airport)
```

## Parameters

name [string](#) 

The name for the terminal.

airport [Airport](#)

The airport that the terminal will be located at.

# Properties

## Id

Gets Id of Terminal

```
public int Id { get; }
```

Property Value

[int](#)

int value of the id of the terminal

## Name

Gets Name of Terminal

```
public string Name { get; }
```

Property Value

[string](#)

string of name of terminal

## Methods

### AddAircraftAllowedAtGatesAtTerminal(AircraftType)

Adds an aircraft that will be able to use all of the gates in this terminal.

```
public void AddAircraftAllowedAtGatesAtTerminal(AircraftType aircraftType)
```

Parameters

**aircraftType** [AircraftType](#)

An Enum that represents the id of an aircraftType that you want to enable access for the gate.



## AddGateToList(Gate)

Adds a gate to the list of gates on this terminal.

```
public void AddGateToList(Gate gate)
```

### Parameters

gate [Gate](#)

The gate that will be added to the list.

## CreateMultipleGatesToTerminal(string, int, int, Airport)

Creating multiple gates and adding them to this terminal.

```
public void CreateMultipleGatesToTerminal(string gateLetter, int startNumber, int  
numberOfGates, Airport airport)
```

### Parameters

gateLetter [string](#)<sup>↗</sup>

The letter thats a part of the gatename.

startNumber [int](#)<sup>↗</sup>

The start-number for generating all the gates. This is gonna be the first generated gate.

numberOfGates [int](#)<sup>↗</sup>

The number of gates thats gonna be created.

airport [Airport](#)

The airport that these gates will be added to.

## GetgatesInTerminal()

Gets the list that contains all gates for this Terminal.

```
public List<Gate> GetgatesInTerminal()
```

Returns

[List](#) [<Gate>](#)

A list of gates for this terminal.

## PrintTaxiwayInformation()

Prints out information about the terminal.

```
public void PrintTaxiwayInformation()
```

## ToString()

This override the ToString() method that exists in all objects in c#

```
public override string ToString()
```

Returns

[string](#)

A String with simple details about the Terminal.

## UpdateGateLocation(string)

Updates the airport the terminal is located at.

```
public void UpdateGateLocation(string airportName)
```

Parameters

airportName [string](#)

Name of the airport that the terminal will be updated to.

## UpdateLocation(string)

Updates the information for which airport the terminal is located at.

```
public void UpdateLocation(string airportName)
```

### Parameters

**airportName** [string](#) 

Name of the airport that the terminal will be located at.

# Namespace BrusOgPotetgull.AirportLibrary. AircraftTypes

## Classes

### [AircraftType](#)

This class represents a spesific type of aircraft.

# Class AircraftType

Namespace: [BrusOgPotetgull.AirportLibrary.AircraftTypes](#)

Assembly: brusOgPotetgull.airportLibrary.dll

This class represents a spesific type of aircraft.

```
public class AircraftType
```

## Inheritance

[object](#) ↗ ← AircraftType

## Inherited Members

[object.Equals\(object\)](#) ↗ , [object.Equals\(object, object\)](#) ↗ , [object.GetHashCode\(\)](#) ↗ , [object.GetType\(\)](#) ↗ , [object.MemberwiseClone\(\)](#) ↗ , [object.ReferenceEquals\(object, object\)](#) ↗

## Examples

This is how you can instansiate the aircraft type for a boeing 737. `AircraftType boeing737 = new AircraftType("Boeing 737");`

## Remarks

This is used together with the creation of aircrafts to define their type.

## Constructors

### AircraftType(string)

Creates an Aircraft type to be used in the creation of aircraft objects

```
public AircraftType(string name)
```

## Parameters

name [string](#) ↗

This is the name of the aircraft type. An Example could be "Airbus A330"

# Properties

## Name

Gets the name of the aircraft type

```
public string Name { get; }
```

## Property Value

[string](#)

string of name of aircraft type

## TypeId

Gets the TypeId of the aircraft type

```
public int TypeId { get; }
```

## Property Value

[int](#)

int of aircraft type id

# Methods

## ToString()

This override the ToString() method that exists in all objects in c#

```
public override string ToString()
```

## Returns

[string](#)

A String with simple details about the AircraftType.

# Namespace BrusOgPotetgull.AirportLibrary. CustomExceptions

## Classes

### [DuplicateOfContentException](#)

Initializes an exception that is used when duplication of content happens.

### [NegativeNumberException](#)

Initializes an exception that is used when a negative number appears.



# Class DuplicateOfContentException

Namespace: [BrusOgPotetgull.AirportLibrary.CustomExceptions](#)

Assembly: brusOgPotetgull.airportLibrary.dll

Initializes an exception that is used when duplication of content happens.

```
public class DuplicateOfContentException : Exception, ISerializable
```

## Inheritance

[object](#) ← [Exception](#) ← DuplicateOfContentException

## Implements

[ISerializable](#)

## Inherited Members

[Exception.GetBaseException\(\)](#), [Exception.GetType\(\)](#), [Exception.ToString\(\)](#), [Exception.Data](#), [Exception.HelpLink](#), [Exception.HResult](#), [Exception.InnerException](#), [Exception.Message](#), [Exception.Source](#), [Exception.StackTrace](#), [Exception.TargetSite](#), [Exception.SerializeObjectState](#), [object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#)

## Constructors

### DuplicateOfContentException()

Creates an DuplicateOfContentException.

```
public DuplicateOfContentException()
```

### DuplicateOfContentException(string)

Creates an DuplicateOfContentException with a specified error message.

```
public DuplicateOfContentException(string message)
```

## Parameters

**message** [string](#)

This error message is explaining the reason for the exception.

## DuplicateOfContentException(string, Exception)

Creates an DuplicateOfCotentException with a specified error message. It has also a reference to the inner exception that is the cause of this exception.

```
public DuplicateOfContentException(string message, Exception inner)
```

## Parameters

**message** [string](#)

This error message is explaining the reason for the exception.

**inner** [Exception](#)

The exception that is the reason for the current exception.

# Class NegativeNumberException






Namespace: [BrusOgPotetgull.AirportLibrary.CustomExceptions](#)

Assembly: brusOgPotetgull.airportLibrary.dll

Initializes an exception that is used when a negative number appears.

```
public class NegativeNumberException : ArgumentOutOfRangeException, ISerializable
```





























## Inheritance

[object](#)  ← [Exception](#)  ← [SystemException](#)  ← [ArgumentException](#)  ← [ArgumentOutOfRangeException](#)  ← NegativeNumberException

## Implements

[ISerializable](#) 

## Inherited Members

[ArgumentOutOfRangeException.ThrowIfEqual<T>\(T, T, string\)](#)  ,  
[ArgumentOutOfRangeException.ThrowIfGreaterThan<T>\(T, T, string\)](#)  ,  
[ArgumentOutOfRangeException.ThrowIfGreaterThanOrEqual<T>\(T, T, string\)](#)  ,  
[ArgumentOutOfRangeException.ThrowIfLessThan<T>\(T, T, string\)](#)  ,  
[ArgumentOutOfRangeException.ThrowIfLessThanOrEqual<T>\(T, T, string\)](#)  ,  
[ArgumentOutOfRangeException.ThrowIfNegative<T>\(T, string\)](#)  ,  
[ArgumentOutOfRangeException.ThrowIfNegativeOrZero<T>\(T, string\)](#)  ,  
[ArgumentOutOfRangeException.ThrowIfNotEqual<T>\(T, T, string\)](#)  ,  
[ArgumentOutOfRangeException.ThrowIfZero<T>\(T, string\)](#)  ,  
[ArgumentOutOfRangeException.ActualValue](#)  , [ArgumentOutOfRangeException.Message](#)  ,  
[ArgumentException.ThrowIfNullOrEmpty\(string, string\)](#)  ,  
[ArgumentException.ThrowIfNullOrEmpty\(string, string\)](#)  , [ArgumentException.ParamName](#)  ,  
[Exception.GetBaseException\(\)](#)  , [Exception.GetType\(\)](#)  , [Exception.ToString\(\)](#)  , [Exception.Data](#)  ,  
[Exception.HelpLink](#)  , [Exception.HResult](#)  , [Exception.InnerException](#)  , [Exception.Source](#)  ,  
[Exception.StackTrace](#)  , [Exception.TargetSite](#)  , [Exception.SerializeObjectState](#)  ,  
[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  ,  
[object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#) 

## Constructors

NegativeNumberException()

Creates an `NegativeNumberException`

```
public NegativeNumberException()
```

## NegativeNumberException(string)

Creates an `NegativeNumberException` with a specified error message.

```
public NegativeNumberException(string message)
```

### Parameters

`message` [string](#)

This error message is explaining the reason for the exception.

## NegativeNumberException(string, Exception)

Creates an `NegativeNumberException` with a specified error message. It has also a reference to the inner exception that is the cause of this exception.

```
public NegativeNumberException(string message, Exception inner)
```

### Parameters

`message` [string](#)

This error message is explaining the reason for the exception.

`inner` [Exception](#)

The exception that is the reason for the current exception.

# Namespace BrusOgPotetgull.AirportLibrary. Simulation

## Classes

### [Simulation](#)

A simulation that is used to simulate how an airport works.

# Class Simulation


Namespace: [BrusOgPotetgull.AirportLibrary.Simulation](#)

Assembly: brusOgPotetgull.airportLibrary.dll








A simulation that is used to simulate how an airport works.

```
public class Simulation
```

## Inheritance

[object](#)  ← Simulation

## Inherited Members

[object.Equals\(object\)](#)  , [object.Equals\(object, object\)](#)  , [object.GetHashCode\(\)](#)  , [object.GetType\(\)](#)  ,  
[object.MemberwiseClone\(\)](#)  , [object.ReferenceEquals\(object, object\)](#)  , [object.ToString\(\)](#) 

# Constructors

## Simulation(Airport, DateTime, DateTime)

Creates an simulation of the choosen airport.

```
public Simulation(Airport airport, DateTime startTime, DateTime endTime)
```

## Parameters

**airport** [Airport](#)

Which airport that is using the simulation.

**startTime** [DateTime](#) 

The day that is the start of the simulation.

**endTime** [DateTime](#) 

The day that is the end of the simulation.

# Properties

## Airport

Gets the airport sim is running on

```
public Airport Airport { get; }
```

## Property Value

[Airport](#)

airport object that the sim is running on

## EndTime

gets end time of simulation

```
public DateTime EndTime { get; }
```

## Property Value

[DateTime](#)

DateTime object of the time the sim is ending

## StartTime

Gets start time of simulation

```
public DateTime StartTime { get; }
```

## Property Value

[DateTime](#)

DateTime object of the start time of the sim

# Methods

## RunSimulation()

This method is starting the simulation.

```
public void RunSimulation()
```