

## CS 250 Project 4: Binary Search Tree

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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

# File Index

### 2.1 File List

Here is a list of all files with brief descriptions:

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## Chapter 3

# Class Documentation

### 3.1 Airplane Class Reference

```
#include <Airplane.hpp>
```

#### Public Member Functions

- void [Board](#) ([Traveller](#) \*traveller)
- [Traveller](#) \* [Disboard](#) ()
- bool [IsEmpty](#) ()

#### 3.1.1 Member Function Documentation

3.1.1.1 void [Airplane::Board](#) ( [Traveller](#) \* *traveller* )

3.1.1.2 [Traveller](#) \* [Airplane::Disboard](#) ( )

3.1.1.3 bool [Airplane::IsEmpty](#) ( )

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

- [Airplane.hpp](#)
- [Airplane.cpp](#)

### 3.2 Airport Class Reference

```
#include <Airport.hpp>
```

## Public Member Functions

- void [LineUp](#) ([Traveller](#) \*traveller)
- [Traveller](#) \* [NextInLine](#) ()
- bool [IsEmpty](#) ()
- int [WaitingCount](#) ()
- void [SetMaxCapacity](#) (int size)
- int [GetMaxCapacity](#) ()

## Private Attributes

- int [m\\_maxCapacity](#)

### 3.2.1 Member Function Documentation

3.2.1.1 int [Airport::GetMaxCapacity](#) ( )

3.2.1.2 bool [Airport::IsEmpty](#) ( )

3.2.1.3 void [Airport::LineUp](#) ( [Traveller](#) \* *traveller* )

3.2.1.4 [Traveller](#) \* [Airport::NextInLine](#) ( )

3.2.1.5 void [Airport::SetMaxCapacity](#) ( int *size* )

3.2.1.6 int [Airport::WaitingCount](#) ( )

### 3.2.2 Member Data Documentation

3.2.2.1 int [Airport::m\\_maxCapacity](#) [private]

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

- [Airport.hpp](#)
- [Airport.cpp](#)

## 3.3 AirTravelSimulator Class Reference

```
#include <AirTravelSimulator.hpp>
```

Collaboration diagram for [AirTravelSimulator](#):

## Public Member Functions

- [AirTravelSimulator](#) ()
- void [Run](#) ()
- bool [LineUp](#) ()
- bool [Board](#) ()
- bool [Disembark](#) ()
- void [Stats](#) ()
- void [DisplayMessage](#) ([Traveller](#) \*ptrPerson, [State](#) action)

## Private Attributes

- [State](#) m\_state
- [TravellerManager](#) m\_pplManager
- [Airport](#) m\_airport
- [Airplane](#) m\_airplane
- int m\_timeStamp
- [LinkedList](#)< [Traveller](#) \* > m\_ptrTravellers

### 3.3.1 Constructor & Destructor Documentation

3.3.1.1 [AirTravelSimulator::AirTravelSimulator](#) ( )

### 3.3.2 Member Function Documentation

3.3.2.1 [bool](#) [AirTravelSimulator::Board](#) ( )

3.3.2.2 [bool](#) [AirTravelSimulator::Disembark](#) ( )

3.3.2.3 [void](#) [AirTravelSimulator::DisplayMessage](#) ( [Traveller](#) \* *ptrPerson*, [State](#) *action* )

3.3.2.4 [bool](#) [AirTravelSimulator::LineUp](#) ( )

3.3.2.5 [void](#) [AirTravelSimulator::Run](#) ( )

#### Parameters

<a href="#">&lt;type&gt;</a>	asdf
------------------------------	------

#### Returns

[<type>](#)

3.3.2.6 [void](#) [AirTravelSimulator::Stats](#) ( )

### 3.3.3 Member Data Documentation

3.3.3.1 **Airplane** `AirTravelSimulator::m_airplane` [private]

3.3.3.2 **Airport** `AirTravelSimulator::m_airport` [private]

3.3.3.3 **TravellerManager** `AirTravelSimulator::m_pplManager` [private]

3.3.3.4 **LinkedList<Traveller\*>** `AirTravelSimulator::m_ptrTravellers` [private]

3.3.3.5 **State** `AirTravelSimulator::m_state` [private]

3.3.3.6 **int** `AirTravelSimulator::m_timeStamp` [private]

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

- [AirTravelSimulator.hpp](#)
- [AirTravelSimulator.cpp](#)

## 3.4 Traveller Struct Reference

```
#include <Traveller.hpp>
```

### Public Member Functions

- [Traveller](#) ()

### Public Attributes

- string [name](#)
- int [waitingTime](#)
- bool [boarded](#)
- int [id](#)
- [State](#) [state](#)

### 3.4.1 Constructor & Destructor Documentation

3.4.1.1 `Traveller::Traveller ( )` [inline]

### 3.4.2 Member Data Documentation

3.4.2.1 `bool Traveller::boarded`

3.4.2.2 `int Traveller::id`

3.4.2.3 `string Traveller::name`

3.4.2.4 `State Traveller::state`

3.4.2.5 `int Traveller::waitingTime`

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

- [Traveller.hpp](#)

## 3.5 TravellerManager Class Reference

```
#include <TravellerManager.hpp>
```

Collaboration diagram for TravellerManager:

### Public Member Functions

- [TravellerManager](#) ()
- void [LoadNames](#) (string filename)
- void [IncreaseWaitingTimes](#) ()
- [Traveller](#) \* [GetTraveller](#) (int index)

### Private Attributes

- [Traveller](#) [m\\_passengers](#) [1000]

### 3.5.1 Constructor & Destructor Documentation

3.5.1.1 [TravellerManager::TravellerManager](#) ( ) [inline]

### 3.5.2 Member Function Documentation

3.5.2.1 [Traveller\\*](#) [TravellerManager::GetTraveller](#) ( int *index* ) [inline]

3.5.2.2 void [TravellerManager::IncreaseWaitingTimes](#) ( ) [inline]

3.5.2.3 void [TravellerManager::LoadNames](#) ( string *filename* ) [inline]

### 3.5.3 Member Data Documentation

3.5.3.1 [Traveller](#) [TravellerManager::m\\_passengers](#)[1000] [private]

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

- [TravellerManager.hpp](#)





## Chapter 4

# File Documentation

### 4.1 Airplane.cpp File Reference

```
#include "Airplane.hpp"
```

Include dependency graph for Airplane.cpp:

### 4.2 Airplane.hpp File Reference

```
#include <iostream>
#include <string>
#include <cstdlib>
#include <fstream>
#include <stack>
#include <queue>
#include <iomanip>
#include "Traveller.hpp"
#include "DataStructures/Stack.hpp"
```

Include dependency graph for Airplane.hpp: This graph shows which files directly or indirectly include this file:

#### Classes

- class [Airplane](#)

### 4.3 Airport.cpp File Reference

```
#include "Airport.hpp"
```

Include dependency graph for Airport.cpp:

## 4.4 Airport.hpp File Reference

```
#include <iostream>
#include <cstdlib>
#include <stack>
#include <queue>
#include <iomanip>
#include "Traveller.hpp"
#include "DataStructures/Queue.hpp"
```

Include dependency graph for Airport.hpp: This graph shows which files directly or indirectly include this file:

### Classes

- class [Airport](#)

## 4.5 AirTravelSimulator.cpp File Reference

```
#include "AirTravelSimulator.hpp"
```

Include dependency graph for AirTravelSimulator.cpp:

## 4.6 AirTravelSimulator.hpp File Reference

```
#include <vector>
#include "TravellerManager.hpp"
#include "Airplane.hpp"
#include "Airport.hpp"
#include "States.hpp"
#include "DataStructures/LinkedList.hpp"
```

Include dependency graph for AirTravelSimulator.hpp: This graph shows which files directly or indirectly include this file:

### Classes

- class [AirTravelSimulator](#)

## 4.7 main.cpp File Reference

```
#include <iostream>
#include <cstdlib>
#include <ctime>
#include <iomanip>
#include <stdio>
#include "AirTravelSimulator.hpp"
```

Include dependency graph for main.cpp:

## Functions

- int [main](#) ()

### 4.7.1 Function Documentation

#### 4.7.1.1 int main ( )

## 4.8 names.txt File Reference

## 4.9 States.hpp File Reference

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

## Enumerations

- enum [State](#) {  
    [WAITING](#), [LINEUP](#), [BOARDING](#), [DISEMBARKING](#),  
    [FINISHED](#) }

### 4.9.1 Enumeration Type Documentation

#### 4.9.1.1 enum State

##### Enumerator

***WAITING***  
***LINEUP***  
***BOARDING***  
***DISEMBARKING***  
***FINISHED***

## 4.10 Traveller.hpp File Reference

```
#include <string>
#include "States.hpp"
```

Include dependency graph for Traveller.hpp: This graph shows which files directly or indirectly include this file:

## Classes

- struct [Traveller](#)

## 4.11 TravellerManager.hpp File Reference

```
#include <fstream>
#include <string>
#include "Traveller.hpp"
```

Include dependency graph for TravellerManager.hpp: This graph shows which files directly or indirectly include this file:

## Classes

- class [TravellerManager](#)



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