

Airline ticket booking system

Pakistan Airline



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# Documentation of

# Pakistan Airline Booking System

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***Introduction***

*This booking system is a program used for booking tickets, in this case for a airline. It is a part of a airline management system; its job is to provide information on the train and book tickets according to the user’s preference.*

*The main purpose of this program is to provide a user-friendly interface to the user to make booking easy. It also makes the booking system computerized hence making the process much faster. It automatically updates the data in the database hence keeping all systems in the airline system up-to-date. This is an effective solution to many day to day problems that occur in a airline.*

***Project Description***

This project was made using C++. It is a basic project which uses filing to save data. This project is composed of basic concepts to object oriented programming. This project is based on a simple management system. The features it provides are to book a *airline* ticket or a compartment or to cancel your booking or even view your booking at a later time.

***Features***

* *Polymerisation*
* *Operator Overloading*
* *Template (generic programming)*
* *Friend Function*
* *Static Data Member*
* *Composition*
* *Inheritance*

***Polymerisation***

*Down casting is used* to cast premium or economy class onto ticket class when required

Example in; file: defination.cpp, line number: 318, 338, 362 and 381

***Operator Overloading***

It is used to overload “<<” operator to print object data

Example in; file: defination .cpp, line number: 137.

***Template (generic programming)***

It’s used in bill to print the bill of chosen class on run time.

Example in; File: defination.cpp, Line number: 206.

***Friend Function***

Used in overloaded operator for it to access all data.

Example in; File:airline.h line number: 37.

***Static Data Member***

We made cost in premium and economy static constant because it’s the common for all and it remains constant.

Example in; File: airline.h, line number: 78.

***Composition***

Compartment class and ticket class have a composition relationship.

Example in; File: *airline*.h, line number: 86.

***Inheritance***

Premium and economy class inherit ticket class.

Feature in; file: *airline*.h, line number: 68, 76.

***Description Of UML Diagram***

*Class Train:*

*Represents a whole train.*

* *airlineum is the airline's serial number.*
* *PremiumSeat is the total number of premium seats in the airline.*
* *EconomySeat is the total number of economy seats in the airline.*
* *startingpoint and the destination are the stations the airline moves between.*
* *input is used to set all the values for the airline.*
* *GetairlineNumber returns the airline number.*
* *GetEconomySeats returns the total number of economy seats in the airline.*
* *GetPremiumSeats returns the total number of premium seats in the airline.*
* *Overloaded "<<" displays all the information of the airline.*

*Class Compartment:*

*Represents a compartment in the airline where only 4 passengers can fit.*

* *tic is an object of ticket class.*
* *showC() shows information of all the tickets in the compartment.*
* *book() takes input of all the data for a seats.*

*Class Tickets:*

*represents a ticket.*

* *name is the name of the user.*
* *status saves the status of the booking(i.e. either its complete or pending).*
* *ret() returns reservation number of the booking.*
* *reservation() takes input of each tickets data.*
* *cancellation() is used to cancel a reservation( i.e. delete data of a ticket).*
* *Overloaded "<<" is used to display information of a single ticket.*
* *showComp(ticket t) is friend of ticket.*

*Class Economy:*

*this represents a ticket of economy type.*

* *cost specifies the cost of an economy ticket which is constant.*
* *calculateFare() displays an economy ticket.*

*Class Premium:*

*represents a premium ticket.*

* *cost specifies the cost of an premium ticket which is constant.*
* *calculateFare() displays a premium ticket.*

*Class Bill:*

* *Totalcost is the calculates price of a whole compartment.*
* *calcbill() calculates the total cost.*
* *setzero() resets the value of totalcost to zero.*
* *dispBill() displays the bill.*

*Global functions:*

* *request();*
* *DisplayList()*
* *showComp() displays the information of the compartment.*
* *Gotoxy() places the cursor on the x,y coordinates of the screen.*
* *Box() prints text inside a box.*

*Class Compartment is in composition with class Tickets.*

*Premium and Economy class have public inheritance of class Tickets.*