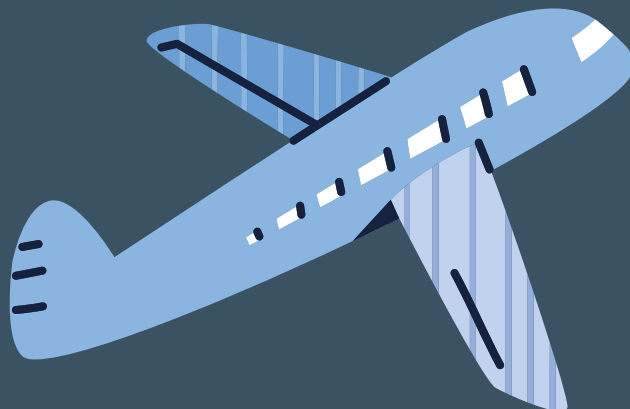


# 1

# DSA PROJECT REPORT

## AIRLINE MANAGEMENT SYSTEM



**CSCL2102 LAB: DATA STRUCTURES AND  
ALGORITHMS  
INSTRUCTOR: SYED MUHAMMAD HASSAN**

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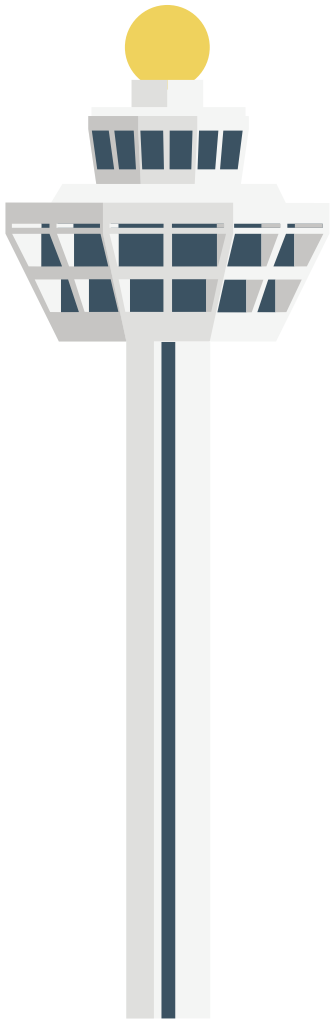
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# PROJECT MEMBERS

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- **USMAN OBAID  
(2112338)**
- **WAJIH RASHID  
(2112322)**
- **KARAN KUMAR  
(2112307)**
- **KOONJ MAHNOOR  
(2112310)**



# INTRODUCTION

**Project Statement:** This module being proposed will contain our ordinary airline management system; which includes the basics; ticket booking, ticket cancelling and flight timings, baggage and total cost of the ticket.

**Interface of the Project:** CLI

**Functionality of the Project:**

- Read
- Create
- Update
- Delete



# WORK BREAKDOWN

---

- Understanding how the management system works and choosing the simplest.
- Implementing the structure of the management system.
- Using array lists, searching and sorting algorithms where needed.
- Implementation of CLI.
- Storing all the data in the server in case of any mis-handling.

## How DSA is being used in the Project:

- Using appropriate data structures to represent the data
- Using array lists to represent the boarding process, adding passengers and process them in the order in which they arrive.
- Separate classes for baggage, passengers and all the ticket/flight details which includes information such as flight model, capacity, location, IDs, timings etc.
- Separate array lists for planes, flights and passengers.
- Sorting algorithm (quick sort] to sort passengers according to their flight IDs.
- Binary Searching algorithm to search for the flights and IDs.

# 6

In addition:

- CLI
- MYSQL

Previously:

- GUI (By Karan Kumar)

In addition:

- File Handling



# 7

## Project Screenshots (CLI)

```
Welcome to the Airline Management System.
Please choose one of the following options
1. View all Flights
2. Edit Passenger Records
3. Add or Remove Flights
4. Add or Remove Planes
5. Add or remove passengers
6.Quit
3
No flights
To add a flight, press 1. To remove a flight, press 2.
1
Enter Plane Id:
2
Enter destination:
khi
Enter current location:
isb
Enter Total seats:
200
Enter departure time in HH:mm :
12:30
Enter arrival time in HH:mm :
01:30
```

```
Welcome to the Airline Management System.
Please choose one of the following options
1. View all Flights
2. Edit Passenger Records
3. Add or Remove Flights
4. Add or Remove Planes
5. Add or remove passengers
6.Quit
6
PS D:\DSA project> █
```

```
Welcome to the Airline Management System.  
Please choose one of the following options  
1. View all Flights  
2. Edit Passenger Records  
3. Add or Remove Flights  
4. Add or Remove Planes  
5. Add or remove passengers  
6.Quit  
4  
No planes  
To add a plane, press 1. To remove a plane, press 2.  
1  
Enter plane model  
747  
Enter plane location  
karachi  
Enter plane capacity  
300
```

```
Welcome to the Airline Management System.  
Please choose one of the following options  
1. View all Flights  
2. Edit Passenger Records  
3. Add or Remove Flights  
4. Add or Remove Planes  
5. Add or remove passengers  
6.Quit  
□
```



```
Welcome to the Airline Management System.
Please choose one of the following options
1. View all Flights
2. Edit Passenger Records
3. Add or Remove Flights
4. Add or Remove Planes
5. Add or remove passengers
6.Quit
5
No passengers
To add a passenger, press 1. To remove a passenger, press 2.
1
Enter passenger id
0
Enter passenger name
Ali
Enter ticket id:
001
Enter flight Id:
0
Enter compartment:
economy
Enter the number of bags:
1
Enter Bag Weight:
12
Enter Bag Size:
4
```

Server: 127.0.0.1 » Database: jdbc » Table: flight

Showing rows 0 - 0 (1 total, Query took 0.0001 seconds.)

`SELECT * FROM `flight``

Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

	ID	planeID	DepartureTime	ArrivalTime	Destination	Currentlocation	Totalseats	Seatsavailable
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	0	2	12:30	01:30	khi	isb	200	200

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table

Query results operations

Server: 127.0.0.1 » Database: jdbc » Table: plane

Showing rows 0 - 0 (1 total, Query took 0.0001 seconds.)

`SELECT * FROM `plane``

Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

	ID	Model	Location	Capacity
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	0	747	karachi	300

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table

Server: 127.0.0.1 » Database: jdbc » Table: passenger

Showing rows 0 - 1 (2 total, Query took 0.0001 seconds.)

`SELECT * FROM `passenger``

Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	ID	Name
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	0	Ali
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1	usman

Check all | With selected: Edit Copy Delete Export



# 12

The image shows a login interface for an "Airline Management System". The title is at the top in a purple serif font. Below it are two white input fields for "UserName" and "Password". To the right of the password field are two black buttons with white text: "LOGIN" and "Close". The background is a blue sky with clouds, and at the bottom, a large white airplane is seen from the front, positioned on a runway that recedes into the distance.

[illegible]

[illegible]



# MESSAGE FROM THE GROUP MEMEBRS

---

We have tested our abilities and tried our best to implement all the learning of the course in this project.

We tried to implement CLI and GUI in the project. We tested SQL and file handling.

## WHAT DID WE LEARN AS A GROUP?

We learnt how to work as individuals but help each other at the same time. We learnt new things from each other and helped each other learn them and make the best out of the group's individual member's skills. We hope to improve our project making skills in the future.

**Thankyou!**