CHAPTER 1

OBJECTIVE

This major JAVA project will primarily focus on the ticket booking function, which will take user inputs such as flight name, flight source and destination, number of seats, and seat numbers. After the user has entered all of their requirements into this application, it will be able to check at the backend and provide us with all of the information about flights.

The user will be able to see how many seats are available and which ones are available, as well as book them at a predetermined price for each ticket. The seats will be divided into first class and economy categories.

Economy First class In the first class flights module, the administrator lets users create a username and search for their needs for first class flights. If a flight is available, they can book first class tickets. In the economy flights module, the administrator lets users create a username and search for their needs for economy flights. If a flight is available, they can book economy tickets. In the proposed system, the administrator logs in and chooses the type of flight—first class or economy—then enters the details of the reservation, such as This application informs the user about the reservation ticket and provides a printout if seats are available for that particular flight.

CHAPTER 2

SCHEDULE OF INTERNSHIP

Day 1:

- Learn about variables, data types, functions, loops, and arrays, which are the fundamentals of Java programming**.**
- The similarities and differences between artificial intelligence and machine learning, as well as their applications in actual businesses and industries

Day 2:

- Acquired knowledge of object-oriented programming, including what classes and objects are.
- Discovered what access modifiers are and how to apply them
- Gained a better understanding of static and non-static functions

Day 3:

- Acquired practical expertise with object-oriented concepts like classes and functions, as well as access modifiers and other methods.
- Developed a number of minor projects, including a student information system, a human activity system, an employee information system, etc.

CHAPTER 3

TECHNOLOGY USED

Java:

Java has long been one of the most popular programming languages. Java is designed with objects in mind. However, it is not viewed as entirely object-oriented because it accepts fundamental data types (like int, char) First, byte code is created from the Java source code (machine-independent code). The byte code is then executed by the Java Virtual Machine (JVM) independent of the underlying architecture.

JDK:

A cross-platform software development environment called the Java Development Kit (JDK) provides a selection of tools and libraries required for creating Java-based software applications and applets. Along with the JRE and the JVM (Java Virtual Machine), it is a fundamental Java package (Java Runtime Environment).

JRE & JVM:

JVM (Java Virtual Machine) is a machine that is abstract. Because it is a virtual machine, it doesn't actually exist. It is a specification that offers a runtime setting for the execution of Java bytecode. Additionally, it can execute programmes that were translated from another language into Java bytecode.

JRE is an acronym for Java Runtime Environment. It is also written as Java RTE. The Java Runtime Environment is a set of software tools which are used for developing Java applications. It is used to provide the runtime environment. It is the implementation of JVM. It physically exists. It contains a set of libraries + other files that JVM uses at runtime.

IntelliJ:

IntelliJ IDEA is an Integrated Development Environment (IDE) for JVM languages designed to maximize developer productivity. It does the routine and repetitive tasks for you by providing clever code completion, static code analysis, and refactorings.

CHAPTER 4

DATA STRUCTURES USED

Variables:

In Java, a variable is a data container that stores data values during the execution of a Java program. Every variable has a data type assigned to it that specifies the kind and number of values it can store. A variable is the name of a data place in memory. A memory location is given a name called a variable. It serves as a program's fundamental unit of storage.

In this project we use variables to store basic user information such as name ,age ,date of birth and other information.

Data Types:

Different sizes and values of data types can be saved in variables that are created for convenience and under specific conditions to account for all test cases. Let's also discuss some additional significant issues. There are primarily two categories of languages, which are as follows:

In this project we use data types to tell the compiler what type of data we are about to store in a variable. For example, the name of user will be stored in String variable whereas the price of a flight will be stored in a float variable because it may contain decimal values.

Functions:

A Java method, also known as a collection of statements that carry out a certain operation and return the outcome to the caller, is called a method. Java methods have the option of carrying out certain tasks without producing any output. Java's methods let us reuse code without having to retype it. In contrast to languages like C, C++, and Python, every method in Java must be a component of a class.

1. A method exposes an object's behaviour in the same way that a function does.

2. It is a collection of codes that carry out a specific function.

In this project we use functions to repeat tasks such as taking input. This increases the code readability which makes it easier for the reader to understand and look at. It also saves the coder time as he won't have to repeat the same block of code

Arrays:

In Java, an array is a collection of variables with similar types that go by one common name. Arrays function differently in Java than they do in C/C++. The main points regarding Java arrays are listed below. All arrays in Java are dynamically allocated. (It is covered below) Arrays are kept in contiguous memory, or adjacent regions in memory. Due to the fact that in Java, arrays are objects, we can get their length using the object attribute length. In C/C++, we use sizeof to determine length; this is different.

In this project we use multi-dimentional arrays to initialize rows and columns. This allows the user to check the seats which are booked and also to check which seats are Economy and which are first class.

Classes and objects:

Class are a blueprint or a set of instructions to build a specific type of object. It is a basic concept of Object-Oriented Programming which revolve around the real-life entities. Class in Java determines how an object will behave and what the object will contain.

Object is an instance of a class. An object in OOPS is nothing but a self-contained component which consists of methods and properties to make a particular type of data useful. For example color name, table, bag, barking. When you send a message to an object, you are asking the object to invoke or execute one of its methods as defined in the class.

In this project, we group certain functionality using classes and objects. When the class function is called, the objects and methods in the UserInformation class allow the user to enter information. The user is able to choose the type of flight with Class FlightType (Economy or first class).