PRACTICAL ASSESSMENT

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Problem Statement:

Develop a **menu-driven console application** in Java that performs **CRUD (Create, Read, Update, Delete)** operations on airline flight records. The application should use **Data Structure** as the data store instead of a database.

Entity to be Used: **Flight**

Fields:

- flightNumber (String) – unique identifier
- airlineName (String)
- source (String)
- destination (String)
- departureTime (String)
- arrivalTime (String)

Tasks:

- **Create**: Add a new flight record.
- **Read**:
  - Display all flight records.
  - Search for a flight by flightNumber.
- **Update**: Modify details of an existing flight by flightNumber.
- **Delete**: Remove a flight record by flightNumber.

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Solution :

AirLine class:

```
import java.util.Comparator;

public class AirLine {
int fno;
String fname;
String source;
String destination;
String departuretime;
String arrivaltime;
public AirLine(int fno, String fname, String source, String destination, String
departuretime, String arrivaltime) {
super();
this.fno = fno;
this.fname = fname;
this.source = source;
this.destination = destination;
this.departuretime = departuretime;
this.arrivaltime = arrivaltime;
}
@Override
public String toString() {
return "AirLine [fno=" + fno + ", fname=" + fname + ", source=" + source + ",
destination=" + destination
+ ", departuretime=" + departuretime + ", arrivaltime=" + arrivaltime + "]";
}



}
```

MainClass

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```
import java.util.LinkedList;
import java.util.List;
import java.util.Scanner;

public class MainMethod {
static Scanner sc=new Scanner(System.in);
static List<AirLine>Flights=new LinkedList();
public static void add() {
System.out.println("Enter how many flight want to add in the database ");
int size=sc.nextInt();
for(int i=0;i<size;i++) {
System.out.println("Enter flight number:");
int fno=sc.nextInt();
System.out.println("Enter flight name:");
String fname=sc.next();
System.out.println("Enter Source of the flight:");
String source=sc.next();
System.out.println("Enter the destination:");
String destination=sc.next();
System.out.println("Enter the depature time:");
String dt=sc.next();
System.out.println("Enter the arrival time:");
String at=sc.next();
Flights.add(new AirLine(fno,fname,source,destination,dt,at));

}
System.out.println(size+"Flights addedd successfuly");
view();
}
public static void view() {
if(Flights.isEmpty())
System.out.println("Yet Flights are not added to databases");
else {
System.out.println("Fligh no      |      Flight name   |      Source |
      Destination   |      Departure Time      |      Arrival Time  | ");
for(AirLine f:Flights) {
System.out.println( f.fno+"\t\t"+f.fname+"\t\t\t"+f.source+"\t\t\t"+f.destination+
"\t\t\t"+f.departuretime+"\t\t\t"+f.arrivaltime);
}

}}


public static void searchbyno() {
if(Flights.isEmpty()) {
System.out.println("Yet Flights are not added to databases");
add();
}
else {
System.out.println("Enter the flight number to be searched:");
```

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```
int fno=sc.nextInt();
for(AirLine f:Flights) {
if(f.fno==fno) {
System.out.println("FLight found");
System.out.println("Fligh no      |      Flight name   |      Source |
       Destination   |      Departure Time      |      Arrival Time | ");
System.out.println( f.fno+"\t\t"+f.fname+"\t\t\t"+f.source+"\t\t\t"+f.destination+
"\t\t\t"+f.departuretime+"\t\t\t"+f.arrivaltime);
}

}
}
System.out.println("Flight not found");
return;
}
public static void update() {
boolean found=true;
if(Flights.isEmpty())
System.out.println("Yet database are emplty Flights are to be added ");
else {
System.out.println("Enter the flight number to be searched:");
int fno=sc.nextInt();
for(AirLine f:Flights) {
if(f.fno==fno) {
System.out.println("Enter fno");
int fnoo=sc.nextInt();
f.fno=fnoo;
System.out.println("Enter fname");
String fname=sc.next();
f.fname=fname;
System.out.println("Enter source");
String source=sc.next();
f.source=source;
System.out.println("Enter destination");
String destination=sc.next();
f.destination=destination;
System.out.println("Enter departure time");
String dt=sc.next();
f.departuretime=dt;
System.out.println("Enter arrival time");
String at=sc.next();
f.arrivaltime=at;
found=false;

}
System.out.println("Flight updated successfully!!!");
view();
}

}
```

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```
if(found) {
System.out.println("Invalid flight number");
return;
}
}
public static void delete() {
boolean found=true;
if(Flights.isEmpty())
System.out.println("Yet database are empty Flights are to be added");
else {
System.out.println("Enter the flight number to be searched:");
int fno=sc.nextInt();
for(AirLine f:Flights) {
if(f.fno==fno) {
Flights.remove(f);
System.out.println("FLight deleted successfully");
found=false;
view();
}
}
}


if(found) {
System.out.println("Invalid flight no");
return;
}
}

public static void main(String[] args) {

System.out.println("----------AirLine Management System----------");
while(true) {
System.out.println("1.Add Flights \n2.View all Flights \n3.Search Flight by
Flightnumber \n4.Update Flight \n5.Delete Flight \n6.Exit ");
int choice=sc.nextInt();
switch(choice) {
case 1: add();break;
case 2: view();break;
case 3:searchbyno();break;
case 4:update();break;
case 5:delete();break;
case 6:System.out.println("Exisiting form the process..........GoodBye!!!!\n-----
-------- Have a Nice day!!!!---------------------");
return;
default:System.out.println("Invalid choice number");break;
}
}

}
```

```
}
```

Output

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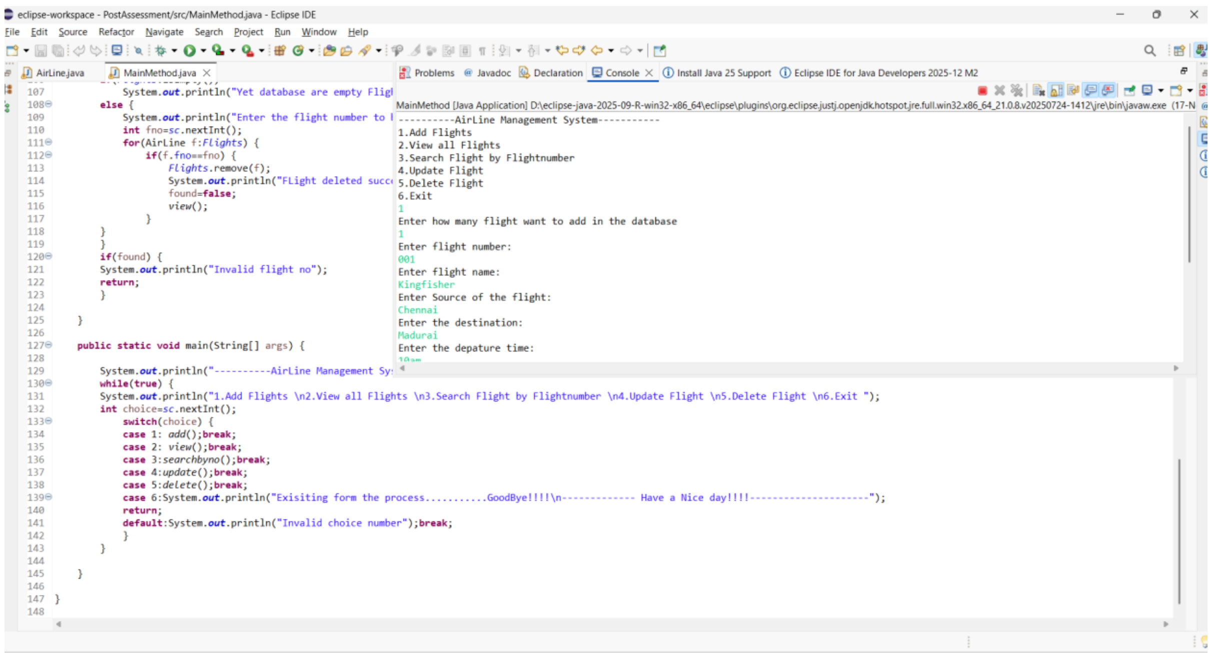
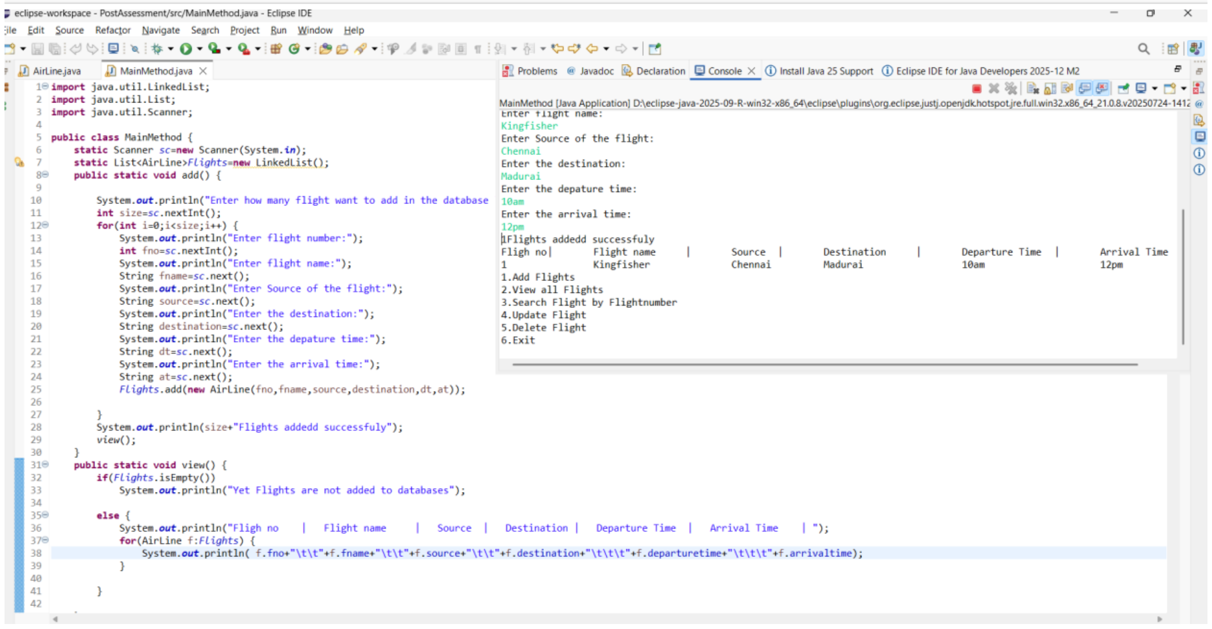


eclipse-workspace - PostAssessment/src/MainMethod.java - Eclipse IDE

```java
            System.out.println("Yet database are empty Fligl
        else {
            System.out.println("Enter the flight number to l
            int fno=sc.nextInt();
            for(AirLine f:Flights) {
                if(f.fno==fno) {
                    Flights.remove(f);
                    System.out.println("FLight deleted succe
                    found=false;
                    view();
                }
        }
        }
        if(found) {
        System.out.println("Invalid flight no");
        return;
        }

    }

    public static void main(String[] args) {

        System.out.println("----------AirLine Management Sy:
        while(true) {
        System.out.println("1.Add Flights \n2.View all Flights \n3.Search Flight by Flightnumber \n4.Update Flight \n5.Delete Flight \n6.Exit ");
        int choice=sc.nextInt();
            switch(choice) {
            case 1: add();break;
            case 2: view();break;
            case 3:searchbyno();break;
            case 4:update();break;
            case 5:delete();break;
            case 6:System.out.println("Exisiting form the process..........GoodBye!!!!\n------------ Have a Nice day!!!!-------------------");
            return;
            default:System.out.println("Invalid choice number");break;
            }
        }

    }

}
```

MainMethod [Java Application] D:\eclipse-java-2025-09-R-win32-x86_64\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.8.v20250724-1412\jre\bin\javaw.exe (17-N

```
----------AirLine Management System-----------
1.Add Flights
2.View all Flights
3.Search Flight by Flightnumber
4.Update Flight
5.Delete Flight
6.Exit
1
Enter how many flight want to add in the database
1
Enter flight number:
001
Enter flight name:
Kingfisher
Enter Source of the flight:
Chennai
Enter the destination:
Madurai
Enter the depature time:
```



eclipse-workspace - PostAssessment/src/MainMethod.java - Eclipse IDE

```java
import java.util.LinkedList;
import java.util.List;
import java.util.Scanner;

public class MainMethod {
    static Scanner sc=new Scanner(System.in);
    static List<AirLine>Flights=new LinkedList();
    public static void add() {

        System.out.println("Enter how many flight want to add in the database
        int size=sc.nextInt();
        for(int i=0;i<size;i++) {
            System.out.println("Enter flight number:");
            int fno=sc.nextInt();
            System.out.println("Enter flight name:");
            String fname=sc.next();
            System.out.println("Enter Source of the flight:");
            String source=sc.next();
            System.out.println("Enter the destination:");
            String destination=sc.next();
            System.out.println("Enter the depature time:");
            String dt=sc.next();
            System.out.println("Enter the arrival time:");
            String at=sc.next();
            Flights.add(new AirLine(fno,fname,source,destination,dt,at));

        }
        System.out.println(size+"Flights addedd successfuly");
        view();
    }
    public static void view() {
        if(Flights.isEmpty())
            System.out.println("Yet Flights are not added to databases");

        else {
            System.out.println("Fligh no    |   Flight name     |   Source  |   Destination |   Departure Time  |   Arrival Time    | ");
            for(AirLine f:Flights) {
                System.out.println( f.fno+"\t\t"+f.fname+"\t\t"+f.source+"\t\t"+f.destination+"\t\t\t"+f.departuretime+"\t\t\t"+f.arrivaltime);
            }

        }
```

MainMethod [Java Application] D:\eclipse-java-2025-09-R-win32-x86_64\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.8.v20250724-1412

```
Enter flight name:
Kingfisher
Enter Source of the flight:
Chennai
Enter the destination:
Madurai
Enter the depature time:
10am
Enter the arrival time:
12pm
1Flights addedd successfuly
Fligh no|       Flight name     |       Source  |       Destination     |       Departure Time  |       Arrival Time
1               Kingfisher              Chennai         Madurai                 10am                    12pm
1.Add Flights
2.View all Flights
3.Search Flight by Flightnumber
4.Update Flight
5.Delete Flight
6.Exit
```

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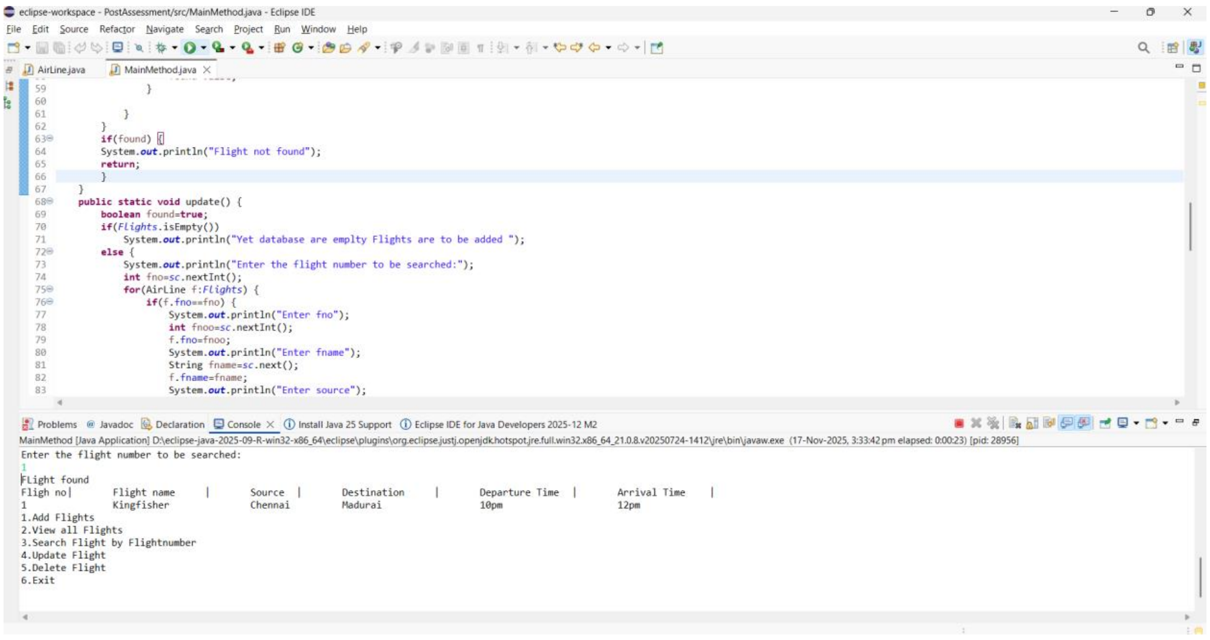
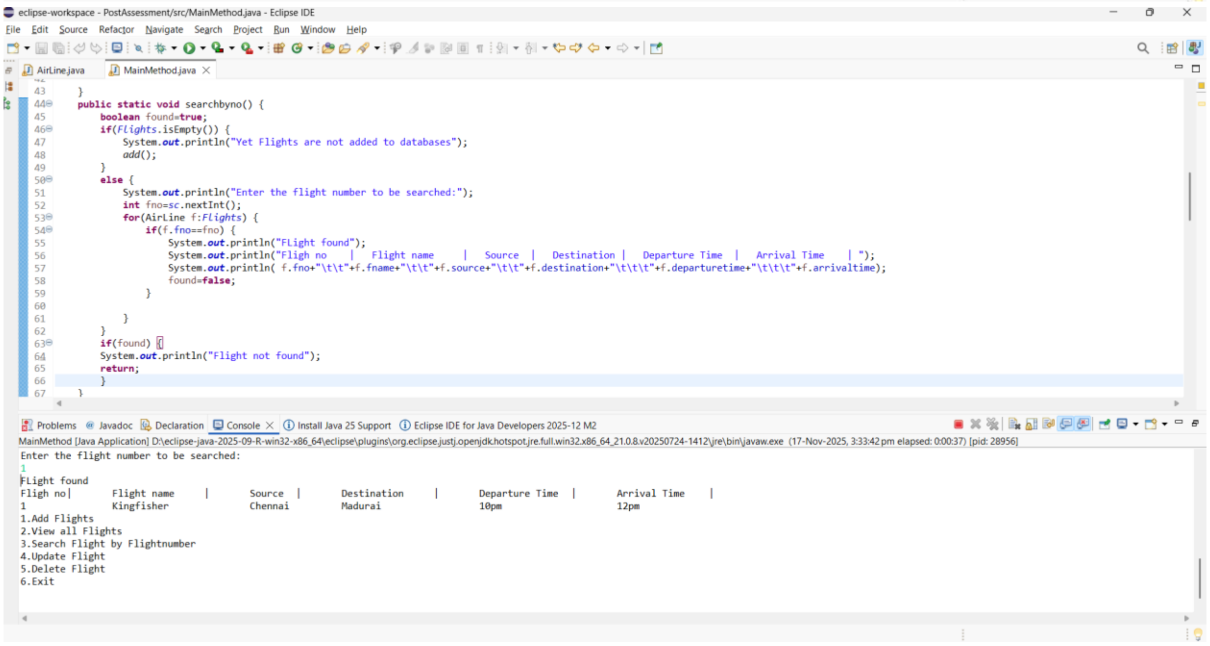

eclipse-workspace - PostAssessment/src/MainMethod.java - Eclipse IDE

```java
                }

            }
        }
        if(found) {
        System.out.println("Flight not found");
        return;
        }
    }
    public static void update() {
        boolean found=true;
        if(Flights.isEmpty())
            System.out.println("Yet database are emplty Flights are to be added ");
        else {
            System.out.println("Enter the flight number to be searched:");
            int fno=sc.nextInt();
            for(AirLine f:Flights) {
                if(f.fno==fno) {
                    System.out.println("Enter fno");
                    int fnoo=sc.nextInt();
                    f.fno=fnoo;
                    System.out.println("Enter fname");
                    String fname=sc.next();
                    f.fname=fname;
                    System.out.println("Enter source");
```

MainMethod [Java Application] D:\eclipse-java-2025-09-R-win32-x86_64\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.8.v20250724-1412\jre\bin\javaw.exe (17-Nov-2025, 3:33:42 pm elapsed: 0:00:23) [pid: 28956]

```
Enter the flight number to be searched:
1
FLight found
Fligh no|       Flight name     |       Source  |       Destination     |       Departure Time  |       Arrival Time    |
1               Kingfisher              Chennai         Madurai                 10pm                    12pm
1.Add Flights
2.View all Flights
3.Search Flight by Flightnumber
4.Update Flight
5.Delete Flight
6.Exit
```


eclipse-workspace - PostAssessment/src/MainMethod.java - Eclipse IDE

```java
    }
    public static void searchbyno() {
        boolean found=true;
        if(Flights.isEmpty()) {
            System.out.println("Yet Flights are not added to databases");
            add();
        }
        else {
            System.out.println("Enter the flight number to be searched:");
            int fno=sc.nextInt();
            for(AirLine f:Flights) {
                if(f.fno==fno) {
                    System.out.println("FLight found");
                    System.out.println("Fligh no    |   Flight name     |   Source  |   Destination |   Departure Time  |   Arrival Time    | ");
                    System.out.println( f.fno+"\t\t"+f.fname+"\t\t"+f.source+"\t\t"+f.destination+"\t\t\t"+f.departuretime+"\t\t\t"+f.arrivaltime);
                    found=false;
                }

            }
        }
        if(found) {
        System.out.println("Flight not found");
        return;
        }
    }
```

MainMethod [Java Application] D:\eclipse-java-2025-09-R-win32-x86_64\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.8.v20250724-1412\jre\bin\javaw.exe (17-Nov-2025, 3:33:42 pm elapsed: 0:00:37) [pid: 28956]

```
Enter the flight number to be searched:
1
FLight found
Fligh no|       Flight name     |       Source  |       Destination     |       Departure Time  |       Arrival Time    |
1               Kingfisher              Chennai         Madurai                 10pm                    12pm
1.Add Flights
2.View all Flights
3.Search Flight by Flightnumber
4.Update Flight
5.Delete Flight
6.Exit
```

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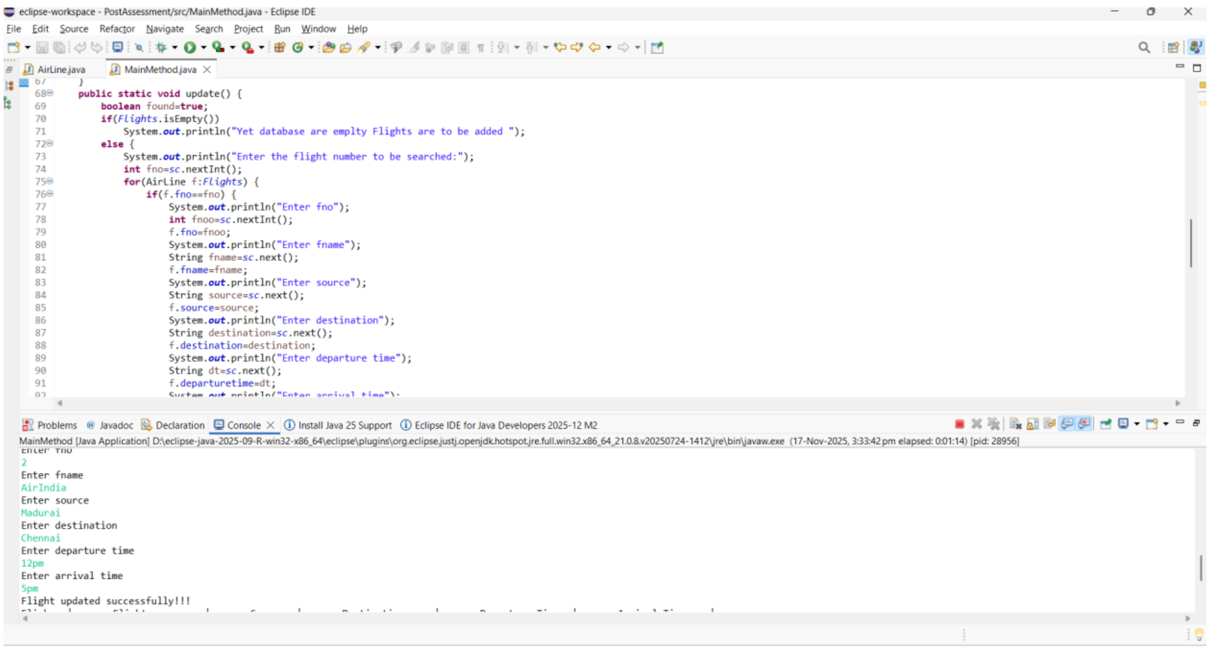
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File Edit Source Refactor Navigate Search Project Run Window Help
AirLine.java
MainMethod.java
Problems
Javadoc
Declaration
Console
Install Java 25 Support
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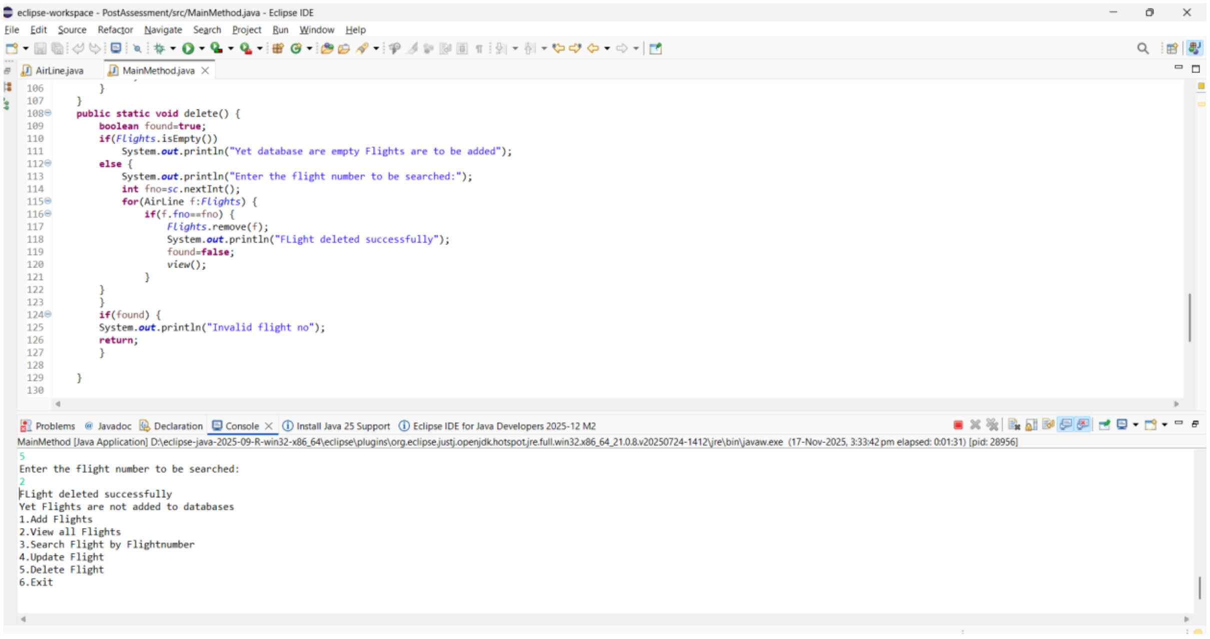
```java
    }
    public static void update() {
        boolean found=true;
        if(Flights.isEmpty())
            System.out.println("Yet database are emplty Flights are to be added ");
        else {
            System.out.println("Enter the flight number to be searched:");
            int fno=sc.nextInt();
            for(AirLine f:Flights) {
                if(f.fno==fno) {
                    System.out.println("Enter fno");
                    int fnoo=sc.nextInt();
                    f.fno=fnoo;
                    System.out.println("Enter fname");
                    String fname=sc.next();
                    f.fname=fname;
                    System.out.println("Enter source");
                    String source=sc.next();
                    f.source=source;
                    System.out.println("Enter destination");
                    String destination=sc.next();
                    f.destination=destination;
                    System.out.println("Enter departure time");
                    String dt=sc.next();
                    f.departuretime=dt;
                    System.out.println("Enter arrival time");
```

MainMethod [Java Application] D:\eclipse-java-2025-09-R-win32-x86_64\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.8.v20250724-1412\jre\bin\javaw.exe (17-Nov-2025, 3:33:42 pm elapsed: 0:01:14) [pid: 28956]

```
Enter fno
2
Enter fname
AirIndia
Enter source
Madurai
Enter destination
Chennai
Enter departure time
12pm
Enter arrival time
5pm
Flight updated successfully!!!
```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AirLine.java
MainMethod.java
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Declaration
Console
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```java
        }
    }
    public static void delete() {
        boolean found=true;
        if(Flights.isEmpty())
            System.out.println("Yet database are empty Flights are to be added");
        else {
            System.out.println("Enter the flight number to be searched:");
            int fno=sc.nextInt();
            for(AirLine f:Flights) {
                if(f.fno==fno) {
                    Flights.remove(f);
                    System.out.println("FLight deleted successfully");
                    found=false;
                    view();
                }
        }
        }
        if(found) {
        System.out.println("Invalid flight no");
        return;
        }

    }

```

MainMethod [Java Application] D:\eclipse-java-2025-09-R-win32-x86_64\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.8.v20250724-1412\jre\bin\javaw.exe (17-Nov-2025, 3:33:42 pm elapsed: 0:01:31) [pid: 28956]

```
5
Enter the flight number to be searched:
2
FLight deleted successfully
Yet Flights are not added to databases
1.Add Flights
2.View all Flights
3.Search Flight by Flightnumber
4.Update Flight
5.Delete Flight
6.Exit
```

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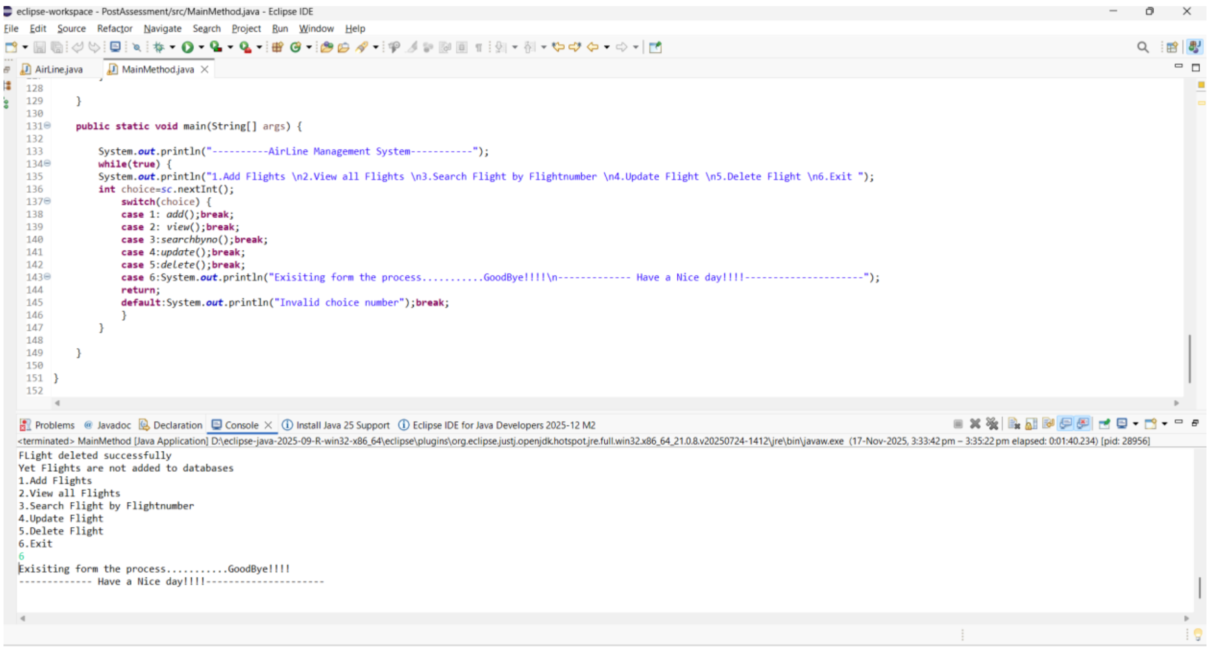
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File Edit Source Refactor Navigate Search Project Run Window Help
AirLine.java
MainMethod.java
Problems
Javadoc
Declaration
Console
Install Java 25 Support
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```java
    }

    public static void main(String[] args) {

        System.out.println("----------AirLine Management System----------");
        while(true) {
        System.out.println("1.Add Flights \n2.View all Flights \n3.Search Flight by Flightnumber \n4.Update Flight \n5.Delete Flight \n6.Exit ");
        int choice=sc.nextInt();
            switch(choice) {
            case 1: add();break;
            case 2: view();break;
            case 3:searchbyno();break;
            case 4:update();break;
            case 5:delete();break;
            case 6:System.out.println("Exisiting form the process...........GoodBye!!!!\n------------- Have a Nice day!!!!---------------------");
            return;
            default:System.out.println("Invalid choice number");break;
            }
        }

    }

}
```

```
<terminated> MainMethod [Java Application] D:\eclipse-java-2025-09-R-win32-x86_64\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.8.v20250724-1412\jre\bin\javaw.exe  (17-Nov-2025, 3:33:42 pm – 3:35:22 pm elapsed: 0:01:40.234) [pid: 28956]
FLight deleted successfully
Yet Flights are not added to databases
1.Add Flights
2.View all Flights
3.Search Flight by Flightnumber
4.Update Flight
5.Delete Flight
6.Exit
6
Exisiting form the process...........GoodBye!!!!
------------- Have a Nice day!!!!---------------------
```