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Airline Reservation System

METHODS:

PACKAGE MODEL

1. Baggage
   1. getBaggageType()
   2. getWeight()
2. Customer
   1. List<Ticket> getTickets()
   2. int getCustomerId()
   3. String getName()
   4. String getEmail()
   5. Customer fromJSON(JSONObject jsonObject, CustomerManager customerManager, FlightManager flightManager )
   6. JSONObject toJSON()

3. Flight

3.1 int getFlightId()

3.2 String getOrigin()

3.3 String getDestination

3.4 getAirline()

3.5 Date getDeparture()

3.6 Date getArrivalDate()

3.7 JSONObject toJSON()

3.8 Flight fromJSON(JSONObject jsonObject)

4. Payment

4.1 int getPaymentId()

4.2 double getAmount()

4.3 Date getDate()

5. Ticket

5.1 JSONObject toJSON()

5.2 Ticket fromJSON(JSONObject jsonObject, CustomerManager customerManager, FlightManager flightManager)

5.3 int getTicketId()

5.4 int getFlightId()

5.5 int getCustomerId()

5.6 TicketClass getTicketClass()

5.7 int getNumberOfPeople()

5.8 String getStatus()

5.9 Flight getFlight(FlightManager flightManager)

6. Users

6.1 String getUsername()

6.2 String getPassword()

PACKAGE UTILS

7. CustomerDataManager

7.1 List<Customer> loadCustomers()

8. CustomerManager

8.1 Customer createCustomer( String name, String email)

8.2 List<Customer> getAllCustomers()

8.3 Customer getCustomer( int customerId)

9. FAQManager

10.FlightManager

10.1 Flight createFlight(String origin, String destination, String airline, Date departureDate, Date arrivalDate)

10.2 List<Flight> getAllFlights()

11. JsonUtils

11.1 List<Customer> loadCustomersFromFile( String filename)

12. OfferManager

12.1 List<String> getAllOffers()

13. PaymentManager

13.1 Payment makePayment(PaymentMethods method, double amount)

13.2 List<Payment> getAllPayment()

14. PaymentMethod

14.1 int getPaymentId()

14.2 PaymentMethods getMethods()

14.3 double getAmount()

14.4 Date getDate()

15. ReservationSystem

15.1 ReservationSystem getInstance()

15.2 CustomerManager getCustomerManager()

15.3 FlightManager getFlightManager()

15.4 TicketManager getTicketManager()

15.5 PaymentManager getPaymentManager()

15.6 OfferManager getOfferManager()

15.7 FAQManager getFaqManager()

16. TicketManager

16.1 Ticket bookTicket(Customer customer, Flight flight, TicketClass ticketClass, int numberOfPeople)

16.2 List<Ticket> getTicketByCustomer(Customer customer)

16.3 Ticket getTicket (int id)

16.4 List <Ticket> getAllTickets()

PACKAGE VIEW

17. AirlineReservationSimulator

18. Login

18.1 boolean authenticate(String username, String password)

18.2 Users findUser(String username)

19. MenuManager

19.1 getIntInput()

TEST CASES:

1. Baggage
   1. getBaggageType()
   2. getWeight()
2. Customer
   1. List<Ticket> getTickets()
   2. int getCustomerId()
   3. String getName()
   4. String getEmail()
   5. Customer fromJSON(JSONObject jsonObject, CustomerManager customerManager, FlightManager flightManager )
   6. JSONObject toJSON()

3. Flight

3.1 int getFlightId()

3.2 String getOrigin()

3.3 String getDestination

3.4 getAirline()

3.5 Date getDeparture()

3.6 Date getArrivalDate()

3.7 JSONObject toJSON()

3.8 Flight fromJSON(JSONObject jsonObject)

4. Payment

4.1 int getPaymentId()

4.2 double getAmount()

4.3 Date getDate()

5. Ticket

5.1 JSONObject toJSON()

5.2 Ticket fromJSON(JSONObject jsonObject, CustomerManager customerManager, FlightManager flightManager)

5.3 int getTicketId()

5.4 int getFlightId()

5.5 int getCustomerId()

5.6 TicketClass getTicketClass()

5.7 int getNumberOfPeople()

5.8 String getStatus()

5.9 Flight getFlight(FlightManager flightManager)

6. Users

6.1 String getUsername()

6.2 String getPassword()

PACKAGE UTILS

7. CustomerDataManager

7.1 List<Customer> loadCustomers()

8. CustomerManager

8.1 Customer createCustomer( String name, String email)

Input1: name

Input2: email

Output: Customer

|  |  |  |
| --- | --- | --- |
| Input1 | Input2 | expectOutput |
| John Doe | |  | | --- | |  |  |  | | --- | | john.doe@example.com | | Customer(1, "John Doe", "john.doe@example.com") |
| Jane Smith | jane.smith@example.com | Customer(2, "Jane Smith", "jane.smith@example.com" |
| Test User | |  | | --- | |  |  |  | | --- | | test.user@example.com | | Customer(3, "Test User", "test.user@example.com") |
|  | no.email@example.com | Customer(4, "", "no.email@example.com") |
| |  | | --- | |  |  |  | | --- | | Empty Email | |  | |  | | --- | |  |  |  | | --- | | Customer(5, "EmptyEmail", "") | |
| Numeric Name | 12345@example.com | Customer(6, "12345", "12345@example.com") |
| NullName | null@example.com | |  | | --- | |  |  |  | | --- | | Customer(7, null, "null@example.com") | |
| LongName | long.name@example.com | Customer(8, "LongName", "long.name@example.com") |
| SpecialChars | @@@@@example.com | Customer(9, "SpecialChars", "@@@@@example.com ") |
|  |  | Customer(10, "", "") |

8.2 List<Customer> getAllCustomers()

8.3 Customer getCustomer( int customerId)

Input : custumerId

Output: Customer

|  |  |
| --- | --- |
| Input | expectOutput |
| 1 | Customer(1, "John Doe", "john@example.com") |
| 2 | Customer(2, "Jane Smith", "jane@example.com") |
| 3 | Customer(3, "Test User", "test@example.com") |
| 4 | Null |
| -1 | Null |
| 0 | Null |
| 100 | Null |
| 10 | Null |
| 8 | Customer(8, "LongName", "long.name@example.com") |
| -2 | Null |

9. FAQManager

10.FlightManager

10.1 Flight createFlight(String origin, String destination, String airline, Date departureDate, Date arrivalDate)

Input1: origin

Input2: destination

Input3: airline

Input4: departureDate

Input5: arrivalDate

Output: Flight

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Input1 | Input2 | Input3 | Input4 | Input5 | expectOutput |
| "NYC" | "LAX" | "Delta" | |  | | --- | |  |  |  | | --- | | 2024-07-01 | | 2024-07-01 | |  | | --- | |  |  |  | | --- | | Flight(1, "NYC", "LAX", "Delta", 2024-07-01, 2024-07-01) | |
| |  | | --- | |  |  |  | | --- | | "LAX" | | "SFO" | |  | | --- | |  |  |  | | --- | | "United" | | |  | | --- | |  |  |  | | --- | | 2024-07-02 | | 2024-07-02 | Flight(2, "LAX", "SFO", "United", 2024-07-02, 2024-07-02) |
| "ORD" | "JFK" | "American" | |  | | --- | |  |  |  | | --- | | 2024-07-03 | | 2024-07-03 | |  | | --- | |  |  |  | | --- | | Flight(3, "ORD", "JFK", "American", 2024-07-03, 2024-07-03) | |
| "MIA" | "ATL" | "Delta" | |  | | --- | |  |  |  | | --- | | 2024-07-04 | | 2024-07-04 | Flight(4, "MIA", "ATL", "Delta", 2024-07-04, 2024-07-04) |
| |  | | --- | |  |  |  | | --- | | "SEA" | | "DEN" | |  | | --- | |  |  |  | | --- | | "Southwest" | | |  | | --- | |  |  |  | | --- | | 2024-07-05 | | 2024-07-05 | Flight(5, "SEA", "DEN", "Southwest", 2024-07-05, 2024-07-05) |
| "" | "LAX" | "Delta" | |  | | --- | |  |  |  | | --- | | 2024-07-06 | | 2024-07-06 | |  | | --- | |  |  |  | | --- | | Flight(6, "", "LAX", "Delta", 2024-07-06, 2024-07-06) | |
| "NYC" | "" | "Delta" | 2024-07-07 | 2024-07-07 | Flight(7, "NYC", "", "Delta", 2024-07-07, 2024-07-07) |
| "NYC" | |  | | --- | |  |  |  | | --- | | "LAX" | | |  | | --- | |  |  |  | | --- | | "" | | 2024-07-08 | 2024-07-08 | |  | | --- | |  |  |  | | --- | | Flight(8, "NYC", "LAX", "", 2024-07-08, 2024-07-08) | |
| "NYC" | |  | | --- | |  |  |  | | --- | | "LAX" | | |  | | --- | |  |  |  | | --- | | "Delta" | | null | 2024-07-09 | Flight(9, "NYC", "LAX", "Delta", null, 2024-07-09) |
| "NYC" | |  | | --- | |  |  |  | | --- | | "LAX" | | |  | | --- | |  |  |  | | --- | | "Delta" | | 2024-07-10 | null | Flight(10, "NYC", "LAX", "Delta", 2024-07-10, null) |

10.2 List<Flight> getAllFlights()

11. JsonUtils

11.1 List<Customer> loadCustomersFromFile( String filename)

12. OfferManager

12.1 List<String> getAllOffers()

13. PaymentManager

13.1 Payment makePayment(PaymentMethods method, double amount)

13.2 List<Payment> getAllPayment()

14. PaymentMethod

14.1 int getPaymentId()

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16. TicketManager

16.1 Ticket bookTicket(Customer customer, Flight flight, TicketClass ticketClass, int numberOfPeople)

16.2 List<Ticket> getTicketByCustomer(Customer customer)

16.3 Ticket getTicket (int id)

16.4 List <Ticket> getAllTickets()

PACKAGE VIEW

17. AirlineReservationSimulator

18. Login

18.1 boolean authenticate(String username, String password)

Input1: username

Input2: password

Output: boolean

|  |  |  |
| --- | --- | --- |
| Input1 | Input2 | expectoutput |
| "john\_doe" | password123" | true |
| "jane\_smith" | "mypassword" | true |
| "alice\_jones" | "alicepass" | true |
| "bob\_brown" | "bobpass" | true |
| "charlie\_clark" | "charliepass" | true |
| "john\_doe" | "wrongpassword" | false |
| "non\_existent" | "password" | false |
| |  | | --- | |  |   “” | "password123" | false |
| "john\_doe" | "" | false |
| null | "password123" | false |

18.2 Users findUser(String username)

Input: username

Output: Users

|  |  |
| --- | --- |
| Input | Output |
| |  | | --- | |  |   "john\_doe" | Users("john\_doe", "John", "Doe") |
| "jane\_smith" | |  | | --- | |  |   Users("jane\_smith", "Jane", "Smith") |
| "alice\_jones" | Users("alice\_jones", "Alice", "Jones") |
| "bob\_brown" | Users("bob\_brown", "Bob", "Brown") |
| "charlie\_clark" | Users("charlie\_clark", "Charlie", "Clark") |
| "non\_existent" | null |
| "" | null |
| "JOHN\_DOE" | null |
| "john\_doe " | null |
| null | null |

19. MenuManager

19.1 getIntInput()