

TEST PLAN

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UNIT TEST PLAN

1. Unit Test Plan for class Station:

a. Subtest-1:

Scenario : Create Station with non-empty name

Input: "Delhi"

Golden Output: Successful Creation without any Exception

b. Subtest-2:

Scenario : Create Station and test GetName() method

Input: "Delhi"

Golden Output: Successful Creation without any Exception and
GetName() returns "Delhi"

c. Subtest-3:

Scenario : Create Station with empty name

Input: "" (empty)

Golden Output: Unsuccessful Creation with Exception caught.

2. Unit Test Plan for class Date:

a. Subtest-1:

Scenario : Create Date with a valid date

Input: 14/07/2001

Golden Output: Successful Creation with NO Exception caught.

b. Subtest-2:

Scenario : ComputeAge from date 14/07/2001 upto 09/04/2021

Input: 14/07/2001 and 09/04/2021

Golden Output: 19 (age)

c. Subtest-3:

Scenario : Less than Operator test

Input: 31/03/2021 < 01/04/2021

Golden Output: True

d. Subtest-4:

Scenario : Less than Operator test

Input: 23/2/2021 < 25/2/2021

Golden Output: True.

e. Subtest-5:

Scenario : Equality operator test

Input: 23/2/2021 and 23/2/2021

Golden Output: True.

f. Subtest-6:

Scenario : Leap Year February 29 th creation test

Input: 29/02/2024

Golden Output: Successful Creation with NO Exception caught.

g. Subtest-7:

Scenario : Last acceptable date

Input: 31/12/2099

Golden Output: Successful Creation with NO Exception caught.

h. Subtest-8:

Scenario : Test method IsWithinAYear

Input: 25/07/2021, 24/08/2022

Golden Output: False

i. Subtest-9:

Scenario : Unacceptable Date

Input: 14/07/1859

Golden Output: Unsuccessful Creation with Exception caught.

j. Subtest-10:

Scenario : Unacceptable Date

Input: 14/07/2100

Golden Output: Unsuccessful Creation with Exception caught.

k. Subtest-11:

Scenario : Invalid Date (Day number not valid)

Input: 31/04/2021

Golden Output: Unsuccessful Creation with Exception caught.

l. Subtest-12:

Scenario : Invalid Date(Day number not valid)

Input: 29/02/2021

Golden Output: Unsuccessful Creation with Exception caught.

m. Subtest-13:

Scenario : Invalid Day Number

Input: 32/3/2024

Golden Output: Unsuccessful Creation with Exception caught.

n. Subtest-14:

Scenario : Invalid Day Number

Input: 0/3/2024

Golden Output: Unsuccessful Creation with Exception caught.

o. Subtest-15:

Scenario : Invalid Month

Input: 12/0/2024

Golden Output: Unsuccessful Creation with Exception caught.

p. Subtest-16:

Scenario : Invalid Month

Input: 12/13/2024

Golden Output: Unsuccessful Creation with Exception caught.

3. Unit Test Plan for class Passenger

a. Subtest-1:

Scenario : Create Passenger and test GetDateOfBirth

Input: Passenger without disability with valid data and dateOfBirth
= 14/07/2001

Golden Output: Successful Creation with NO Exception caught and Getter method returns 14/07/2001.

b. Subtest-2:

Scenario : Create Passenger Test

Input: Valid Passenger with disability and disabilityID

Golden Output: Successful Creation with NO Exception caught.

c. Subtest-3:

Scenario : Passenger Creation with no firstname and no last Name

Input: Empty string passed as firstName and lastName

Golden Output: Unsuccessful Creation with Exception caught.

d. Subtest-4:

Scenario : Passenger creation with invalid aadhar

Input: 11 digit aadhar- 43276891196

Golden Output: Unsuccessful Creation with Exception caught.

e. Subtest-5:

Scenario : Passenger creation with invalid aadhar

Input: 12 digit aadhar with invalid data- 432768911a96

Golden Output: Unsuccessful Creation with Exception caught.

f. Subtest-6:

Scenario : Passenger Creation with invalid phone number

Input: 6 digit phone number - 983032

Golden Output: Unsuccessful Creation with Exception caught.

g. Subtest-7:

Scenario : Passenger Creation with invalid phone number

Input: 10 digit mobile number but with invalid data - 980203sas4

Golden Output: **Unsuccessful Creation with Exception caught.**

h. Subtest-8:

Scenario : Passenger Creation with Disability without any disabilityID

Input: Disability Type: Cancer without any disability ID (default constructor as empty string)

Golden Output: **Unsuccessful Creation with Exception caught.**

4. Unit Test Plan for class Booking:

a. Subtest-1:

Scenario : Creation of Booking and Test GetFare() method

Input: Booking for Kolkata to Delhi with a valid date and valid passenger in AC 2 Tier class in General Category

Golden Output: **Successful Creation with NO Exception caught.**
GetFare() should return 2994.

b. Subtest-2:

Scenario : Creation of booking for Senior Citizen Category

Input: Booking with a valid passenger whose date of birth is 14/07/1960 (Age 60+) and dateOfReservation = 10/04/2021 in SeniorCitizen Category

Golden Output: **Successful Creation with NO Exception caught.**

c. Subtest-3:

Scenario : Booking with a station which is not present in master Data

Input: Booking with station "Gujrat"

Golden Output: **Unsuccessful Creation with Exception caught.**

d. Subtest-4:

Scenario : Booking with a date which precedes reservation date

Input: Booking for date = 24/3/2021 but reservation date = 10/04/2021

Golden Output: **Unsuccessful Creation with Exception caught.**

e. Subtest-5:

Scenario : Booking from a station to same station

Input: Booking from “Kolkata” to “Kolkata”

Golden Output: **Unsuccessful Creation with Exception caught.**

f. Subtest-6:

Scenario : Booking with a date which exceeds one year limit from reservation date.

Input: Booking for date = 24/08/2022 but reservation date = 10/04/2021

Golden Output: **Unsuccessful Creation with Exception caught.**

g. Subtest-7:

Scenario : Booking with passenger's date of birth after reservation date

Input: Passenger date of birth = 14/08/2021 but reservation date = 10/04/2021

Golden Output: **Unsuccessful Creation with Exception caught.**

h. Subtest-8:

Scenario : Booking for a passenger who is ineligible for the bookingCategory

Input: Booking for a female passenger of age 57 (dob = 14/7/1963)
booking for SeniorCitizen (58+ for female)

Golden Output: Unsuccessful Creation with Exception caught.

i. Subtest-9:

Scenario : Booking for a passenger without disability in Divyaang class

Input: Passenger without disability passed to CreateBooking

Golden Output: Unsuccessful Creation with Exception caught.

APPLICATION TEST PLAN

[First 8 Tests are taken from problem statement by prof PPD from business logic(1.3)]

1. Test-1:

Input:

For a booking from Delhi to Mumbai, in General Category in AC3Tier

Golden Output:

Fare should be Rs.1849

2. Test-2:

Input:

For a booking from Delhi to Mumbai, in General Category in ACFirstClass

Golden Output:

Fare should be Rs.4763

3. Test-3:

Input:

For a booking from Delhi to Mumbai, in Senior Citizen Category in AC3Tier for male

Golden Output:

Fare should be 1125

4. Test-4:

Input:

For a booking from Delhi to Mumbai, in Senior Citizen Category in ACFirstClass for Female

Golden Output:

Fare should be 2411

5. Test-5:

Input:

For a booking from Delhi to Mumbai, in Divyaang Category by AC3Tier for Blind

Golden Output:

Fare should be 492

6. Test-6:

Input:

For a booking from Delhi to Mumbai, in Divyaang Category by ACFirstClass for Cancer Patient

Golden Output:

Fare should be 2411

7. Test-7:

Input:

For a booking from Delhi to Mumbai, in Tatkal Category by AC3 Tier

Golden Output:

Fare should be 2249

8. Test-8:

Input:

For a booking from Chennai to Bangalore in Tatkal Category by
ACFirstClass

Golden Output:

Fare should be 1198

9. Test-9:

Input:

For a booking from Chennai to Bangalore in Ladies Category by AC3Tier

Golden Output:

Fare should be 478

10. Test-10:

Input:

For a booking from Chennai to Bangalore in Premium Tatkal Category by
AC2Tier

Golden Output:

Fare should be 750