

Objectives:

- 1. To read data from a file using the **Scanner** classes.
- 2. To explore the advantages of using exception handling.
- 3. To write a simple JavaFX program and understand the relationship among stages, scenes, and nodes.
- 4. To create user interfaces using panes and shapes.

Specification

Submission: Online through ITC.

What to submit: Your **OWN** well-structured and well-commented JAVA files (.java) and PDF file

Deadline: **30/8/2021** by 8pm. (The online submission will be disabled after this time).

Task: A320 Flight Trip Reservation System -enhanced version-

Task1: Phase 3 revise

Make sure phase 3 is fully implemented and revised according the following UML:

Note: add setters and getters as needed. Person - name : String # Person(name) + toString(): String «interface» Comparable Extends Passenger Seat Trip - passport : long seatPref : int (NONE) - rowNum : int - seats : Seat[][] + WINDOW: int (0) tripNum : String columnNum : int + AISLE : int (1) seatNum: String - from : String + NONE : int (2) passenger : Passenger - to : String - date : Calendar # Seat (seatNum) + Passenger (name, passport, seatPref) + toString(): String + Trip (tripNum, from, to, date) + toString(): String + toString(): String Extends Extends + reserveSeat(seatNum, Passenger) : void + isSeatEmpty(seatNum): boolean + getSeat(seatNum) : Seat FirstClass **EconomyClass** + FirstClass () + EconomyClass () + toString(): String + toString(): String

Task2: Reading Trips file

- Consider the attached file "trips.txt" that contains trips details.
- Each line in the file contains the details of one trip using the following format: Trip number/From airport /To airport /Departure date
- e.g. → T123/Amman (AMM)/Tokyo (NRT)/30-8-2021

Task3: Reading Passengers file

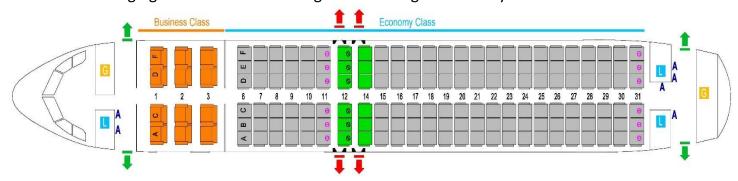
- Consider the attached passengers file "passengers.txt" that contains passengers info in each trip.
- Each line in the file contains the details of one passenger using the following format: Trip number/Name/Passport#/Seat#
- e.g. → T123/Mamoun Nawahdah/123456/F1

Task4: A320 Flight Trip Reservation System: GUI

Create a JavaFX driver with a GUI to handle the following functions:

- At the beginning, load the trips from the file into the ArrayList of trips. Moreover, load the passengers from the file to each trip.
- Add a new trip.
- Reserve a new empty seat (first class or economy) for a new passenger into a specific trip.
- Display the passenger information for a specific seat (if the seat is not empty) in a specific trip.
- Print to a file (trip#.txt) a list of the first class seat's passengers and the economy seat's passengers sorted by seat numbers in a specific trip first by seat row then by seat column (Row 1 is less than Row 2, Seat A is less than seat B and so on).

The flowing figure shows the A320 flight seat Configuration for your reference:



Good Luck!