**Practice - Case Study**

An organization is interested in automating the process of Show Booking System .The system should be in a position to accept showName, showTime and seatsAvailable from a text file and store into List Collection. System should be able to track whether seats are available , reduce no of seats if booking is done and whether given show name available or not. System should be able to throw appropriate exceptions like InvalidSeatNumberException, SeatsNotAvailableException and UnknownShowException.

1. Implement populate() method as default method to populate details from file in ShowManager interface.
2. Use forEach() method of Iterable interface to read show details in populate method.
3. Use another interface as @FunctionalInterface to implement only one abstract method to display all show details available.
4. In displayAllShows() method implement stream API to display show details.
5. Use time api to check show is available for given time
6. Use BufferedReader.lines() to read show details into stream and process it.

**Show.java**

package com.cts.bean;

import java.io.Serializable;

public class Show implements Serializable {

private static final long serialVersionUID = 1L;

private String showName;

private String showTime;

private int seatsAvailable;

getters and setters….

}

List of Exception classes :

**InvalidSeatNumberException**

**SeatsNotAvailableException**

**UnknownShowException**

**ShowManager.java Interface:**

Class showManager

{public List<Show> populate();

public void bookShow(List<Show> showList, String showName,

String show\_time, int noOfSeats);

}

**ShowManagerImpl.java**

Class showManagerImpl

{ public List<Show> populate() {

should handle FileNotFoundException, IOException, ClassNotFoundException

}

public void bookShow(List<Show> showList, String showName,

String show\_time, int noOfSeats) throws SeatsNotAvailableException, UnknownShowException, InvalidSeatNumberException

{……}

}

**Show.java**

@FunctionalInterface

public interface Show

{ public void displayAllShows();

}

**ShowImpl.java**

public class ShowImpl

{

public void displayallShows() { …. }

}

**Main.java**

class Main {

public static void main(String args[]) {

List<Show> list=new ArrayList<Show>();

ShowManagerImpl dmi=new ShowManagerImpl();

list=dmi.populate("show.txt");

System.out.println("SHOWS ARE AS FOLLOWS::"+list);

…use stream API to display details

try {

dmi.bookShow(list, "Sahi re Sahi", "6.30pm", 3);

System.out.println(list);

}

….. use multi catch blocks.