

CIT591, Fall 2017
Recitation 6
October 19th, 3:00pm

For all of these, read in the data file **titanic.csv**.

Easy

- 1) Create a class called **Passenger** that will store the information for each passenger from the file. A passenger should have instance variables for passenger id, name, gender, age, class, ticket number, fare and whether the passenger is still alive or not.
- 1) Create a new class called **PassengerReader** that can read the file with the data and parse information from the csv file to create a list of Passenger objects.
- 3) Create a **DataAnalysis** class that contains an ArrayList of Passenger objects as an instance variable. And create two methods: `getAlivePassengers` and `getDeceasedPassengers` that return a list of alive and deceased passengers.
- 4) Create another class **ReportPrinter** in charge of using a DataAnalysis object as an instance variable and has methods `createAlivePassengersReport` and `createDeceasedPassengersReport` that each create a new file and print the corresponding data of alive and deceased passengers into text files in some format (you can include as much info as you want but at least the name): **passengersAlive.txt** and a file of passengers who died **passengersDeceased.txt**.
- 5) Finally build all the necessary objects (PassengerReader, DataAnalysis, ReportPrinter) in a **Main** class that reads in the file and calls the methods to create the reports
- 1) Use the data to make populate an ArrayList of Passenger objects. You will need to make a Passenger class. A passenger should have instance variables for passenger id, name, gender, age, class, ticket number, and fare.
- 2) Use this data to write out 2 new files: a file of the data (as contained in the Passenger object) of passengers lived and a file of passengers who died.

Medium

- 1) Find the average fare for 1st class, 2nd class, and 3rd class passengers and the overall average fare.
- 2) Print a new file with all fares rounded to the penny. Using this file, find the cheapest fare and the count of how many passengers paid that fare. Do the same for the most expensive and for the median fare.

Hard

- There is a class action suit against the Titanics marketing team. The lawyers involved need to contact all living passengers, families of deceased passengers, and guardians of underage passengers with their fancy legal letter.
- Generate fancy legal letter content using <http://legalipsum.com/>. Save the letter as a .txt file in your project folder (at whatever level your IDE looks for files with relative addresses)
- Write a program that will help the lawyers personalize the letters. This program should, when given a passenger id, write out a new file containing the contents of the letter with a salutation at the top to that correct party (something like "Dear Mr. Smith,"). If the passenger survived it should be addressed to them. If the passenger died on the Titanic it should be addressed to their family (something like To the family of Carl Smith). If the passenger was a child it should be addressed to their guardians.