

Readme

ClientProgram

This is main. The client calls all the data analysis questions from the Data Analysis Class. FileReader objects and DataAnalysis objects are created in main for the client to use to access the information it needs to run a report or summaries on the data files.

The Data Analysis Class

This class takes in an ArrayList of Stations and an ArrayList of Trips. I attempted to make an additional constructor that would accept two different ArrayList of Trips, based on different quarter data, because I wanted to do some combined statistical analysis for q2 and q3 combine for wild card questions. The formatting of *time* was completely different from the q2 file and my DateTime Class only took into account all the different formatting challenges with the date and time for the q2 file. For example, the time format for q2 file was in the from 30-06-18 23: 54, but for q3 it was 2018-30-06 00:23:54 for the same entry and I could not add it into my code in time. Since I created my very own DateTime Class to parse all sorts of dates and time formatting, to attempt a new set of formatting issues with q3 is a non trivial task.

The Data Analysis class addresses 7 fundamental core analysis questions, which includes but is not limited to: getting the number of trips during an indicated time frame, getting the average number of trips for a certain month, number of trips based of an origin station, active stations based off an indicated year, getting the average duration of a trip, stations that have a goLiveDate that are still active, etc. The DataAnalysis class also has a wild card method that allows you to get the number of trips on any given month for the quarter that you are looking for. This is helpful for finding which season is the most popular for bikeshare and when ride indigo will need to perform more preventative maintenance tasks on the bikes to make sure they are in good and running condition.

DateTime Class

I created my own DateTime Class that will parse date and time based off different formatting tasks. The dates and times were parsed depending on the delimiter, white spaces, order of month/day/year, and reorganized accordingly to set the DateTime object for that Trip. It is passed to the Trip and Station Objects to keep date and time organized for those objects (because the Trip and Station files both have dates and times that need to be tracked for Data Analysis).

RideIndegoFileReader Class

TheRideIndegoFileReader has two different methods in order to read two different kinds of files. One method is formatted to be able to read the StationFile and the other is formatted to read the TripFile. It

returns an array list of all the records in the database for Data Analysis later. The RideIndegoFileReader also created a line by line detail report of the quarter trip files and the station file.

Station Class

The station file keeps all the basic information of each station: ID, Name, GoLiveDate, and status. The station object is then used in the RideIndegoFileReader Class to keep track of all the necessary items from the file that's read in. It also contains a DateTime object in order to keep track of the date & time of stations when they went live.

Trip Class

The Trip Class keeps track of all the information read in from the quarter 2 and 3 files. It also contains a DateTime object in order to keep track of the start date & time and the end date & time of all the different trips in the file. Some of the important information you will find with each trip contains the duration of each trip, start/end date and times of each trip, the passholder Type of each trip, etc.