README

MCIT 591 Project Title: **Tesla: Saving Hard-earned Cash or Not?**

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GitHub Repository Link: https://github.com/UPenn-CIT599/final-project-team-6

Purpose:

Using internal combustion engine (ICE) vehicle information on the Mercedes GLC and Lexus LX vehicles, as well as the current national average gas price per gallon, the average gas-powered car cost per mile to run, gasoline grade cost, and stated mpg, our team designed a JAVA program that can read data files, input user information, and calculate whether driving a Tesla is a cost-savings strategy when compared to driving select ICE vehicles in Miami FL, New York NY and Charlotte NC.

Tech Stack:

This project was built using Java, Excel, two electricity bills from one Tesla owner available data for one Mercedes and Lexus owner, and mpg and gasoline cost from the US Department of Energy.

Project Elements:

There are four main elements comprising this project:

1. The user interface (UI),
2. A Java project built to read data from comma delimited files,
3. Current data from vehicle owners, and
4. Historical data on gasoline costs

User Interface:

The user interface has one option:

1. Search fields

Classes:

There are several classes that organize the functions within the project:

1. ElectricUsage.java
2. ElectricUsageReader.java
3. FormattedOutput.java
4. ICEUsage.java
5. ICEUsageReader.java

6. JunitTest.java
7. LineChartOverLay.java
8. RateCalculator.java
9. Runner.java

Start Project:
To start the project, go to Runner class and click on the main method to run the program.

Source Files:
1. 09-2018--03-2019
2. 09-2019--03-2020
3. Gas_Data_EastCoastOnly

To import an external library that used to plot the chart:
1. Update Eclipse to version 12 or above. Below is the link for downloading the JDK 14 version, please select the one for your own operational system.
   https://www.oracle.com/java/technologies/javase-jdk14-downloads.html
2. Create a Java Project
   Project name: Tesla
   JRE – use an execution environment JRE: JavaSE-12 (or above)

New Java Project

Create a Java Project

Create a Java project in the workspace or in an external location.

Project name: Final Project

☑ Use default location

Location: C:\Users\zhou_\eclipse-workspace-new\Final Project   Browse...

JRE

◉ Use an execution environment JRE: JavaSE-12

○ Use a project specific JRE: jdk-14

○ Use default JRE 'jdk-14' and workspace compiler preferences   Configure JREs...

Project layout

○ Use project folder as root for sources and class files

◉ Create separate folders for sources and class files   Configure default...

Working sets

☐ Add project to working sets   New...
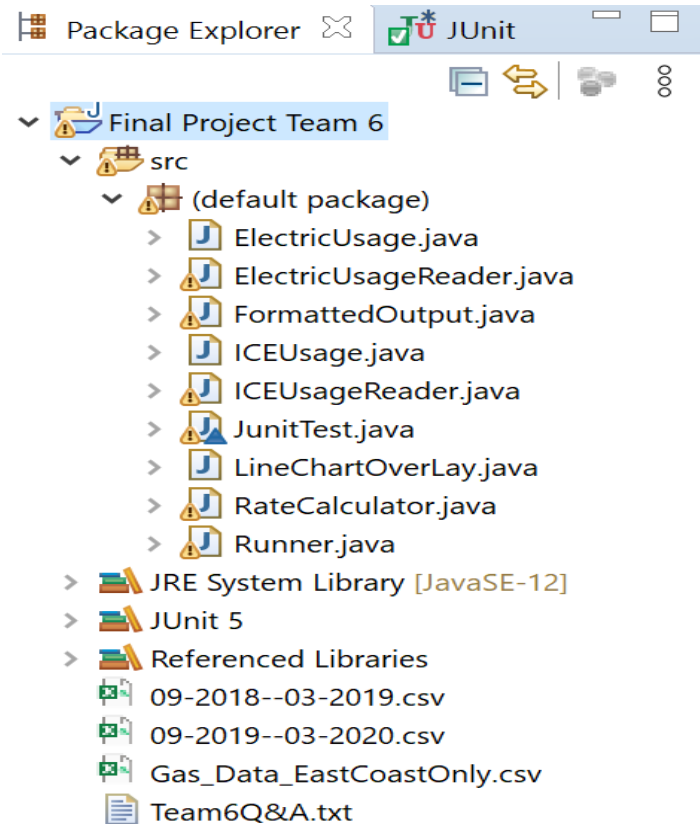
Working sets: Select...

< Back   Next >   Finish   Cancel

3. Copy all classes and sourcing files into correct paths.

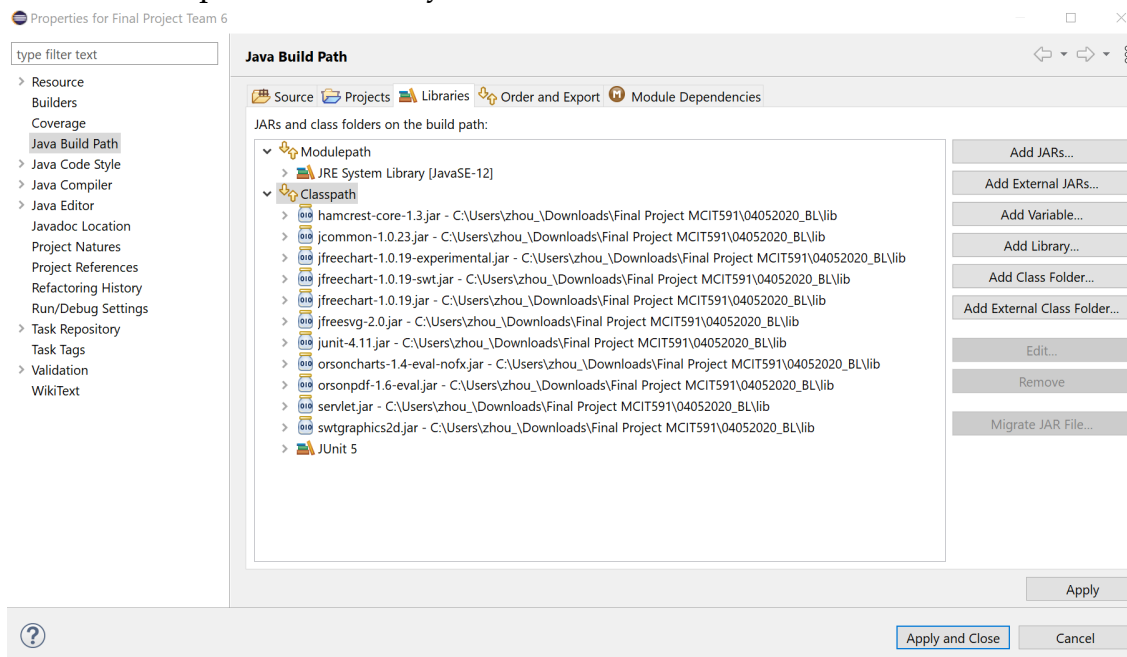All java classes under *src* folder

All source files (*csv* files) under *Project* folder.

4. Import library folder files into correct path.

      Right click project name → Build Path → Configure Build Path

      Under Libraries Tab, left click Classpath → Add External JARS → Import provided Library folder

5. Ready to run.
   source code