**Instructions**

In this lab portion of the end-of-course project, you will open a Jupyter Notebook and follow instructions to enter code and written responses where prompted.

**Data dictionary**

This project uses a dataset called **2017\_Yellow\_Taxi\_Trip\_Data.csv**. It data gathered by the New York City Taxi & Limousine Commission and published by the city of New York as part of their NYC Open Data program. In order to improve the learning experience and shorten runtimes, a sample was drawn from the 113 million rows in the 2017 Yellow Taxi Trip Data table.

The dataset contains:

**22,699 rows** – each row represents a different trip

**18 columns**

| **Column name** | **Description** |
| --- | --- |
| ID | Trip identification number |
| VendorID | A code indicating the TPEP provider that provided the record.  **1= Creative Mobile Technologies, LLC;**  **2= VeriFone Inc.** |
| tpep\_pickup\_datetime | The date and time when the meter was engaged. |
| tpep\_dropoff\_datetime | The date and time when the meter was disengaged. |
| Passenger\_count | The number of passengers in the vehicle.  This is a driver-entered value. |
| Trip\_distance | The elapsed trip distance in miles reported by the taximeter. |
| PULocationID | TLC Taxi Zone in which the taximeter was engaged |
| DOLocationID | TLC Taxi Zone in which the taximeter was disengaged |
| RateCodeID | The final rate code in effect at the end of the trip.  **1= Standard rate**  **2=JFK**  **3=Newark**  **4=Nassau or Westchester**  **5=Negotiated fare**  **6=Group ride** |
| Store\_and\_fwd\_flag | This flag indicates whether the trip record was held in vehicle memory before being sent to the vendor, aka “store and forward,”  because the vehicle did not have a connection to the server.  **Y= store and forward trip**  **N= not a store and forward trip** |
| Payment\_type | A numeric code signifying how the passenger paid for the trip.  **1= Credit card**  **2= Cash**  **3= No charge**  **4= Dispute**  **5= Unknown**  **6= Voided trip** |
| Fare\_amount | The time-and-distance fare calculated by the meter. |
| Extra | Miscellaneous extras and surcharges. Currently, this only includes the $0.50 and $1 rush hour and overnight charges. |
| MTA\_tax | $0.50 MTA tax that is automatically triggered based on the metered rate in use. |
| Improvement\_surcharge | $0.30 improvement surcharge assessed trips at the flag drop. The improvement surcharge began being levied in 2015. |
| Tip\_amount | Tip amount – This field is automatically populated for credit card tips. Cash tips are not included. |
| Tolls\_amount | Total amount of all tolls paid in trip. |
| Total\_amount | The total amount charged to passengers. Does not include cash tips. |

Remember, you can access and download the data for any Jupyter notebook activity from within the notebook itself by navigating to the **Lab Files** dropdown menu at the top of the page, clicking into the **/home/jovyan/work** folder, selecting the relevant data file, and clicking **Download**.

Refer to [NYC Open Data](https://data.cityofnewyork.us/Transportation/2017-Yellow-Taxi-Trip-Data/biws-g3hs) for more information related to this dataset.