**Testing Strategy EX04**

**Program Goal:**

*The goal is to compare the data extracted from 2 different csv files.*

**Testing Strategy:**

*The program is constructed to run in step-by-step process which are:*

* *Using the pandas dataframe structure, both the files are imported in the program.*
* *After reading the files, the program calculates the average trip duration using dataframe values.*
* *Similarly, using dataframes function the list is converted into dictionary to capture the required data values.*
* *Using this data values the program determines the 5 most popular starting and ending stations in both the files.*
* *In file 2, the program calculates the trip average by subtracting the data captured from file 2 stating starting and ending time stamp columns.*
* *Then, the program calculates the total number of users in both the files along with subscriber, customers, members and casual users respectively.*
* *Based on the data calculated by program, it states the comparison between the data calculated from both the files. According to which it states the change in ridership over the 5 years.*

***Expected Output:***

\*\*\*\*\*\*\*\*\*\* Processing file JC-201611-citibike-tripdata.csv \*\*\*\*\*\*\*\*\*\*

Average trip duration in November 2016 is 826 Seconds

The 5 most popular starting stations in November 2016: {'Grove St PATH': 2503, 'Exchange Place': 1468, 'Hamilton Park': 1401, 'Sip Ave': 1199, 'Morris Canal': 1022}

The 5 most popular ending stations in November 2016: {'Grove St PATH': 3987, 'Exchange Place': 1922, 'Hamilton Park': 1239, 'Sip Ave': 1189, 'Newport PATH': 948}

Total number of subscribers: 21192

Total number of Customers: 591

Total number of users in November 2016: 21783

\*\*\*\*\*\*\*\*\*\* Processing file JC-202111-citibike-tripdata.csv \*\*\*\*\*\*\*\*\*\*

Average trip duration in November 2021 is 1174 Seconds

The 5 most popular starting stations in November 2021: {'Grove St PATH': 2935, 'Hoboken Terminal - River St & Hudson Pl': 2629, 'Hoboken Terminal - Hudson St & Hudson Pl': 2150, 'South Waterfront Walkway - Sinatra Dr & 1 St': 2019, 'Sip Ave': 1595}

The 5 most popular ending stations in November 2021: {'Grove St PATH': 2941, 'Hoboken Terminal - River St & Hudson Pl': 2500, 'Hoboken Terminal - Hudson St & Hudson Pl': 2152, 'South Waterfront Walkway - Sinatra Dr & 1 St': 1962, 'Sip Ave': 1583}

Total number of members: 40034

Total number of casuals: 20027

Total number of users in November 2021: 60061

\*\*\*\*\*\*\*\*\*\* Comparing both the files \*\*\*\*\*\*\*\*\*\*

The total number of members are more in November 2021 than November 2016

The total number of Casual users are more in November 2021 than November 2016

The average trip duration is more in November 2021 than November 2016

The ridership change over the 5 years shows that there is an increase of 38278 in total number of users.

This is the end of the files processing.

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Process finished with exit code 0