# **Java\_LP\_CodeChallenge**

Project Author: Nishu Nagaraj

## **Description**

* This repository contains Maven Java project, The project aims to calculate the amount for the trip made by passengers travelling through 3 different stops in a bus by recording the TAP ON and TAP OFF activity from their credit card.
* The project accepts the tapping history of a passenger in a CSV format.
* The project outputs below fields in output CSV file:
  + The amount charged for **Complete trip**, **Incomplete trip** and **Cancelled trip**.
  + Start Date and Time, End Date and Time
  + Duration of travel
  + FromStop, ToStop
  + CompanyID, BusID
  + Status
  + PAN

## **Project Dependencies**

* Project Management tool: Maven 3.0.0
* Language: Java 8
* Framework/Libraries: Junit 5.6.0, opencsv 5.3

## **Project Structure**

* As mentioned earlier the input in taken from a csv file **Input.csv** and output is written to a different csv file **Output.csv**.
* Both input and output files are placed in src/main/java/com/code folder.
* The project includes:
  + main class - App.java,
  + Business Logic classes - CompletedTrip.java, IncompleteTrip.java
  + Input class - Input.java
  + Output class - Output.java
* To validate the solution of this project, test harness has been provided. Three positive test cases are included in AppTest.java file under folder **src/test/java/com/code**.
* Three Test output files are included in the folder **src/test/java/com/code**.

## **Assumptions considered**

* Column **ID** is considered as unique field in Input file.
* An exception will be thrown if there is a Duplicate TAP ONs due to Card reader error.
* An exception will be thrown if there is a stale TAP OFF again due to system or card reader error.
* Time will be displayed in 12 Hour format in output file.

## **Project execution Instruction**

* Three positive tests are included in the AppTest.java.
* To make it easier to test, three different sample test output files are included in folder **src/test/java/com/code**.
  + CancelledTripTestOutput
  + CompleteTripTestOutput
  + IncompleteTripTestOutput