Final Internship Training Project

## Exercise 1:

## About Dataset

This dataset contains household level transactions over two years from a group of 2,500 households who are frequent shoppers at a retailer. It contains all of each household’s purchases, not just those from a limited number of categories. For certain households, demographic information as well as direct marketing contact history are included.

## Things to be Done:

1. Load the CSV files to the database tables using python.
2. In SQL database
   1. Add is\_invalid\_date column which indicates True or False based on the condition where start\_day is greater than end\_day.
   2. Create start\_datekey and end\_datekey with yyyymmdd format based on start\_day and end\_day.
   3. Normalize campaign\_table into 2 tables.
   4. Combine coupon and coupon\_redempt tables into one Coupon table.
3. Find/ Create all the primary keys and foreign keys.
4. Build an ER model diagram using Lucid chart.
5. Connect to Power BI and build sample visualisaztion.

Analysis on the below topics that can help in building reports.

How many customers are spending more over time? Less over time? Describe these customers.  
• Of those customers who are spending more over time, which categories are growing at a faster rate?  
• Of those customers who are spending less over time, with which categories are they becoming less engaged?  
• Which demographic factors (e.g. household size, presence of children, income) appear to affect customer spend? -Engagement with certain categories?  
• Is there evidence to suggest that direct marketing improves overall engagement?

## Exercise 2 :

## API Integration

API Integration is one of the important things to be managed when working with real time datasets. In this exercise you will be sourcing data from an api and displaying the results in the Power BI report.

## Things to do

* Source the data from the api : <https://openweathermap.org/current>.
* Read the api documentation and display the current weather of the Banglore in the Power BI dashboard.

## Final Presentation

Prepare a presentation on the exercises and solution and go through the solution at the end.