The assignment has 3 parts.

* Section 1: Install MySQL database and load some data sets.
* Section 2: Analyse the relationships between the data sets using an ER diagram and answer some business questions about the data by writing SQL statements.
* Section 3: Create a Rest API according to specifications mentioned.

# Section 1: Environment setup and data loading.

1. Install MySQL (server and client) on your laptop:
2. Load the Northwind dataset into the cluster
   1. Northwind database is a set of data sets that is shipped with Microsoft Access and is used in learning SQL. There are several resources available online to learn more about Northwind. ([https://theaccessbuddy.wordpress.com/2011/07/03/northwind- database-explained/](https://theaccessbuddy.wordpress.com/2011/07/03/northwind-database-explained/))
   2. We have sampled down the files and create a zipped file. You can download the files from [here.](https://drive.google.com/file/d/11D6aORzzGdiPhWj8JSC8QdB41L_0A5k9/view?usp=sharing)
   3. The ER diagram is also present along with the files. Please review the data model and understand the relationship between the entities.
   4. Create DDL statements using the ERD diagram and create those files in MySQL. Load the files into those tables. The table names, column names and data types should

match with what is provided. If your schema doesn’t match with ours, we will not be

able to test your code.

1. Deliverables:
   1. DDL statements
   2. Loading scripts for populating data into the tables

# Section 2: Working with data and SQL.

1. For this task you must write the SQL statements that will provide the necessary results.
   1. List all the products with cost above the average price of the products.
   2. Give the identiﬁer, name, and total sales of employees, ordered by the

employee identiﬁer for employees who have sold more than 70 diﬀerent

products.

* 1. Identify the customers who have active orders.
  2. Find the customer with maximum number of orders.
  3. List all the employees who have sold at least one of the products ‘Gravad Lax’ or ‘Mishi Kobe Niku’.

1. Please refer to the ER diagram provided in the zipped to understand the relationship between the tables. Pay attention when to use outer joins vs. inner joins.
2. Deliverables:
   1. Queries / SQL statements

# Section 3: Rest API.

1. Create a Rest API which supports the following operations on Northwind dataset –
   1. Insert, update and select on customers
   2. Insert, update and select on products
   3. Order history of given customer
      1. Make assumptions on columns to be returned by the API
2. Please follow industry standards while writing the code and include basic schema and data validations.
3. Use one of the following languages –
   1. Python
   2. Java/dotnet
   3. NodeJS
4. Plan to deploy the code locally. You are welcome to use any Cloud platform as well
5. Deliverables:
   1. API specification documentation
   2. Code base
   3. We need to be able to run your code and test the API based on the API specification documentation.