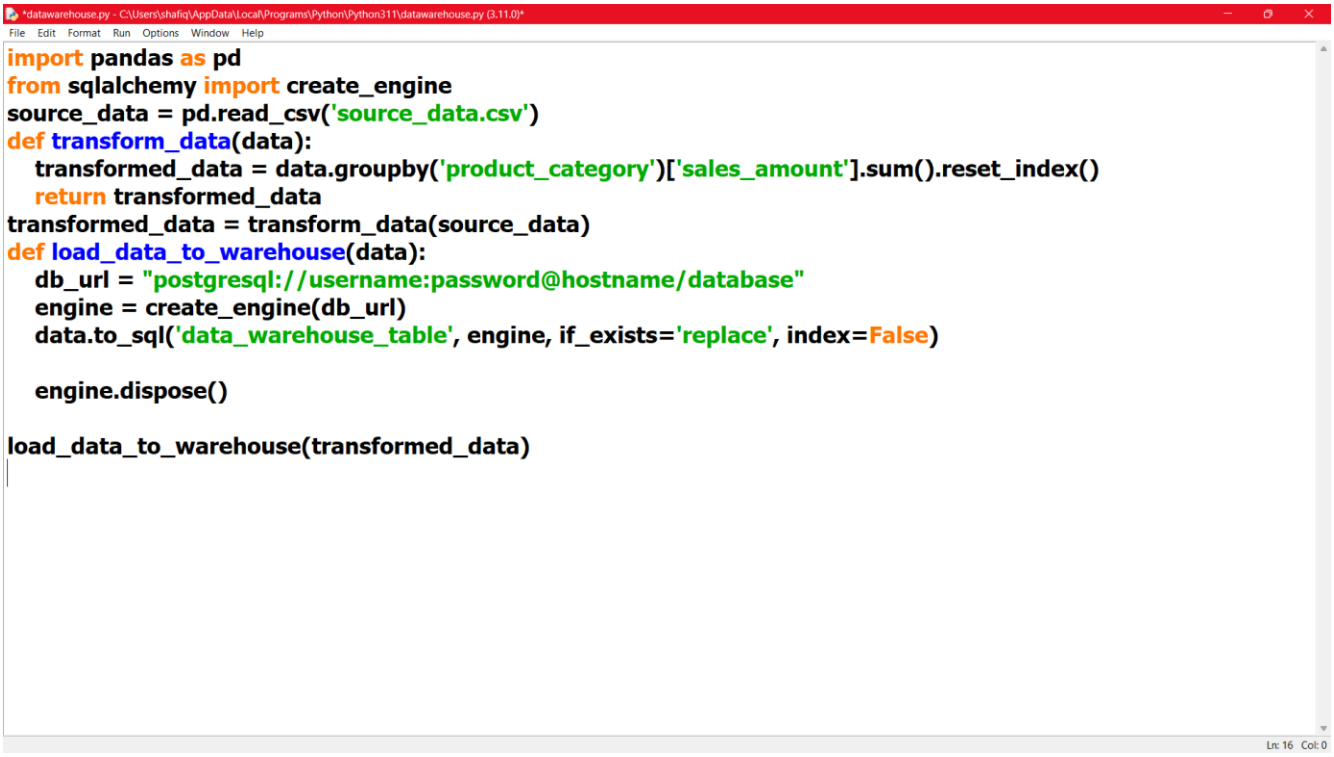
Development phase-2

Data warehousing using IBM Cloud Db2 warehouse

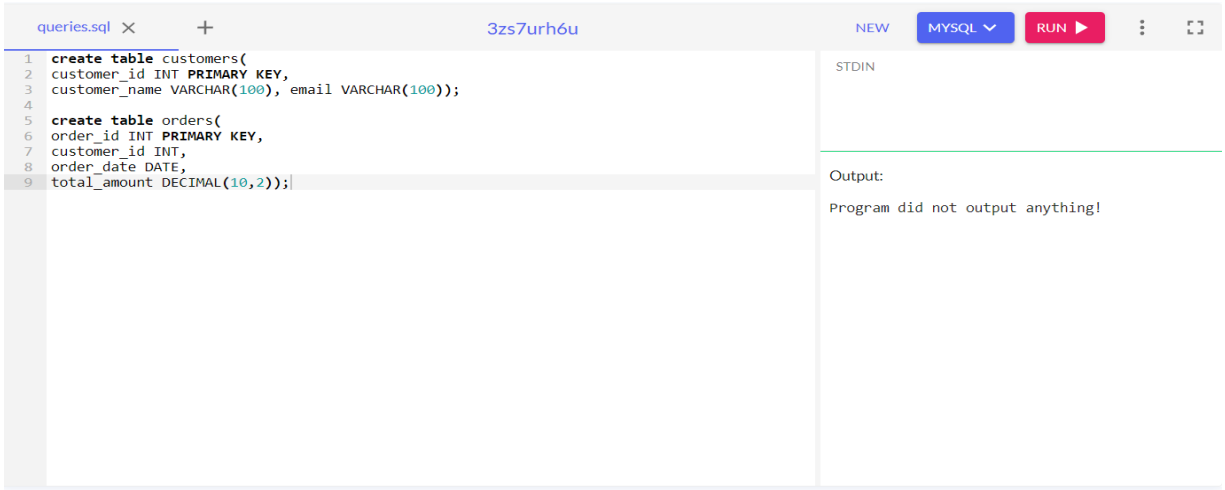
Implementing ETL processes to extract, transform, and load data into the data warehouse :

The ETL (Extract, Transform, Load) process is a crucial component in data warehousing and plays a significant role in the collection, preparation, and delivery of data for analytical and reporting purposes. Here's an overview of the ETL process in data warehousing:

1. Extract: The first stage in the ETL process is to extract data from various sources such as transactional systems, spreadsheets, and flat files. This step involves reading data from the source systems and storing it in a staging area.
2. Transform: In this stage, the extracted data is transformed into a format that is suitable for loading into the data warehouse. This may involve cleaning and validating the data, converting data types, combining data from multiple sources, and creating new data fields.
3. Load: After the data is transformed, it is loaded into the data warehouse. This step involves creating the physical data structures and loading the data into the warehouse.



Analysing data within Db2 Warehouse using SQL queries and analysis techniques :



-- Connect to the Db2 Warehouse database :

```
CONNECT TO <datawarehousing> USER <admin > USING <admin >;
```

-- Select data from a table :

```
SELECT *

FROM customers

LIMIT 10;
```

-- Calculate statistics on numeric data :

```
SELECT

  AVG(total_amount) AS avg_total,

  MIN(total_amount) AS min_total,

  MAX(total_amount) AS max_total,

FROM your_table;
```

-- Filter data based on conditions :

```
SELECT *

FROM orders

WHERE order_date BETWEEN '2023-01-01' AND '2023-12-31';
```

Summary :

Data architects can explore and analyze data within IBM Db2 Warehouse using SQL queries and various analysis techniques. Db2 Warehouse is a powerful data warehousing solution that supports SQL, and it provides various tools and capabilities for data analysis. Here's a step-by-step guide on how data architects can explore and analyze data in Db2 Warehouse.