Team 1 (GITHUB REPO)

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Project Requirements:

Q1. **The Modeling Process** for each business process of the 4 modeled processes is stated in the project docs ("**Project Documentations.pdf**" file):

- **STEP Two:** page 4
  - Defining Business Processes.
- **STEP Three:** page 5
  - Defining Granularity.
- **STEP Five:** page 7
  - Defining Fact Tables, Dimension Tables, and Measurements.
- **STEP Six:** page 17
  - The DWH Model.

Q2. **The DWH Model** is stated in Step 6 of the project documentations page 17 and the model for the DWH is attached as a PNG file named **Model.PNG.**

- The required detail for each component is available in the project documentations step 6 (DWH Model Discussion section) page 18.
- Additional details are stated alongside each step of the modeling process

Q3. **The Physical DWH Model** is constructed in an Excel file named "**DWH Tables.xlsx**" containing.

- The excel file is created using a Python Script to automate the process.
- The automation script for creating the physical model as an excel file is attached in a file named "**Physical Tables.PY**".
- The SQL Script for Model Creation is attached in a file named "**Schema Creation.SQL**".
- Indexes & Partitioning Scripts can be found in a file named "**Indexing & Partitioning.SQL**".

Q4. **Tables Creation & Data Population** are attached as below:

- We used the diagraming tool to generate the table Creation SQL Script and the generated script is attached in a file named "**Schema Creation.SQL**".
- We created a Python Automation Script to populate the DWH with Dummy data.
- The automation script for data population can be found in a file named "**Populate.PY**".

Q5. **SQL Queries** to gain insights from the DWH:

- All the questions mentioned in the project requirements, and more are addressed in a word file named **Analysis.docs**.

Q6. Way more than 2 pages were there in the project documentation file, but we will go further and attach a file called "**Indexing & Partitioning.PDF**" containing the 2-page report.

Project Files Description: github link: (https://github.com/al-ghaly/AirLine-Company-Illmon-Data-Warehouse)

- **Project Documentation.pdf:**
  - This is the project documentations of the project, it document the followed steps for the project and all the business assumptions, alongside detailed explanations for each part of the project and each component of the DWH.

- **Data Population:**
  - This folder contains SQL Scripts used to populate the DWH data.
  - It contains 5 files:
    - 1 For each Fact Table.
    - 1 For al dimension tables
- **DWH Model:**
  - This folder contains the logical schema for the DWH.
  - It contains 5 images:
    - One For the DWH Model.
    - One for each Data Mart.
- **Python:**
  - This folder contains 2 Python automation scripts:
    - One used to populate data into the DWH.
    - One used to generate the physical model for the DWH.
    - It also contains a **data.xlsx** file that contains human names, cities, and countries for the automation script to use.
- **Analysis:**
  - This folder contains the analysis extracted from the DWH.
  - It contains 6 files:
    - Analysis.docs: This word file contains the queries used to gain insights from the data warehouse alongside the extracted insights.
    - Analysis.pdf: The same as Analysis.docs but in a PDF format for better readability.
    - Queries.SQL: Contains the SQL Queries used to answer the questions and gain insights.
    - Dashboard.pbix: Dashboard built on top of the built DWH.
    - It also contains 2 images of the 2-page dashboard.
- **Physical Model:**
  - This folder contains the SQL scripts used to create the physical model of DWH.
  - It contains 3 files:
    - DWH Tables.xlsx: An excel file contains the physical model for the DWH along with all indexes used with a description for each one.
    - Schema Creation.SQL: The SQL Script used to create the DWH tables.
    - Indexing & Partitioning.SQL: The SQL Script used to create DWH Indexes and partitioned tables.
- **Indexing & Partitioning.pdf:**
  - PDF File contains a 2-page report on DWH indexing & Partitioning.