### **Roni’s Challenge: Dashboard Building for Business Insights**

#### **Challenge Overview**

In this challenge, participants will design and develop a data-driven dashboard to help **Roni’s Mac Bar**, a local Texas business with a location in College Station, gain valuable insights into their operations. The goal is to create a user-friendly, business-facing dashboard that provides actionable insights into customer preferences, order efficiency, and overall business performance.

#### **Data Description**

You have been provided with the following datasets:

* A detailed log of every order made at the College Station location during the months of May to October (one for each month)

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#### **Challenge Objectives**

Participants will:

1. **Analyze the Data**: Explore the provided datasets to extract meaningful patterns, trends, and correlations.
2. **Develop a Dashboard**: Build an intuitive and interactive dashboard that displays key insights. The dashboard should aim to improve Roni’s understanding of their business operations.
3. **Provide Insights**: Use the dashboard to potentially answer questions such as:
   * What are the most popular menu items?
   * Are there any seasonal (days of week, month) trends or peaks in demand?
4. **Optional Enhancements**: Enhance the dashboard by integrating forecasting models, trend analyses, or other advanced analytics to support decision-making.

#### **Requirements**

* **Programming Language**: Participants are free to use any programming language or tool of their choice (e.g., Python, JavaScript, Power BI, Tableau). No-code and low-code solutions are also welcome for beginners.
* **Data Visualization**: Use appropriate charts, graphs, and tables to present insights clearly and effectively (i.e. data representation must be visual)
* **Dashboard Features**:
  + An overview of key metrics (for example: total sales, popular items, etc).

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#### **Inputs and Outputs**

* **Inputs**: Sales data from Roni’s Mac Bar from months April to October
* **Outputs**: An interactive, business-facing dashboard that helps Roni’s Mac Bar gain insights into customer behavior and operational efficiency.

#### **Evaluation Criteria**

The dashboards will be evaluated by a judging panel based on the following criteria:

1. **Data Insights**: The depth and accuracy of the insights presented from the data, as well as potential suggestions for Roni’s Mac Bar (explaining insights’ real world impact).
2. **Usability**: How intuitive and user-friendly the dashboard is.
3. **Design and Visual Appeal**: Aesthetics and the clarity of data presentation.
4. **Innovation**: Creativity in the approach, such as incorporating predictive analytics or optimization suggestions.

#### **Resources**

Participants can use the following resources:

* **Data Visualization Libraries**: Tools such as Matplotlib, Seaborn, Plotly, or D3.js for coding solutions.
* **Dashboarding Tools**: Power BI, Tableau, or Google Data Studio for low-code and no-code dashboards.
* **Machine Learning/Analytics**: Optional use of tools like scikit-learn, statsmodels, or Prophet for forecasting and trend analysis.

#### **Submission Guidelines**

Participants should submit:

* **A video** explaining the dashboard functionality, as well as detailing their approach, insights, and any recommendations.
  + 2 minute and 30 second MAX length on your video

Happy hacking!