**Project Title:** Sales Data Analyst Case Study - Clipboard Health

**Project Goal:**

The overarching goal is to demonstrate the candidate's (my) abilities in data analysis, SQL proficiency, and business acumen to the Clipboard Health hiring team. Specifically, the project aims to assess:

1. **Data Analysis Skills:** The ability to quickly learn, analyze, and derive insights from a new and complex dataset (the CMS PBJ data). This includes data cleaning, transformation, aggregation, and visualization.
2. **SQL Proficiency:** The ability to write accurate, efficient, and well-structured SQL queries to extract and manipulate data from a relational database.
3. **Business Acumen and Communication:** The ability to translate data insights into actionable recommendations for a specific business context (Clipboard Health's sales strategy). This includes clear written communication and the ability to justify recommendations with supporting data.
4. Problem-solving.

**Contextual Background:**

* **Clipboard Health:** A technology company that operates a two-sided marketplace connecting healthcare facilities (primarily nursing homes and long-term care facilities) with healthcare professionals (nurses, CNAs, etc.) for on-demand staffing. They compete with traditional staffing agencies and other digital staffing platforms. Clipboard Health's value proposition centers on providing a more efficient, flexible, and cost-effective staffing solution.
* **Healthcare Staffing Crisis:** The healthcare industry, particularly the long-term care sector, is facing a significant staffing shortage. This shortage has been exacerbated by the COVID-19 pandemic and is driven by factors like an aging population, increased demand for care, and high rates of burnout among healthcare workers. This crisis creates a strong market need for solutions like Clipboard Health.
* **CMS Payroll Based Journal (PBJ) Data:** The Centers for Medicare & Medicaid Services (CMS) mandates that nursing homes submit detailed staffing data through the PBJ system. This data includes daily information on employee and contract staff hours for various job categories (RNs, LPNs, CNAs, etc.). The PBJ data is publicly available and provides a rich source of information for analyzing staffing patterns, trends, and potential opportunities for staffing solutions.
* **Sales Data Analyst Role:** The role being applied for is a Sales Data Analyst at Clipboard Health. This role is crucial for informing and optimizing the company's sales strategy. The analyst would be responsible for analyzing data, identifying target markets, and providing insights to the sales leadership team to improve sales performance and efficiency.

**Specific Project Tasks:**

1. **CMS Data Analysis:**
   * Download and analyze the 2024Q2 PBJ Daily Nurse Staffing data and related CMS datasets (Provider Info, Quality of Resident Care).
   * Identify key trends and patterns in staffing levels, contractor utilization, and facility characteristics.
   * Develop up to five data-driven recommendations for Clipboard Health's sales leadership team. These recommendations should be specific, actionable, and supported by data visualizations and clear written explanations.
2. **SQL Query Development:**
   * Write SQL queries to answer ten specific questions based on a provided database schema (Sales, Customers, Products tables).
   * Demonstrate proficiency in various SQL concepts, including joins, aggregation, filtering, ordering, window functions, and conditional logic.

**Deliverables:**

* A document (likely a PDF or similar) containing:
  + A summary of the CMS data analysis, including key findings, visualizations (charts and tables), and written explanations.
  + The three (or up to five) data-driven recommendations for the sales team, with clear justifications and supporting data.
  + The ten SQL queries, formatted for readability and accuracy.

**Overall, this project simulates a real-world scenario where a Sales Data Analyst would use publicly available data and internal database information to inform and improve a company's sales strategy.** It assesses a combination of technical skills (data analysis, SQL) and business thinking (strategic recommendations, communication). The project emphasizes speed, analytical rigor, and the ability to communicate complex information clearly and concisely. The healthcare staffing context adds a layer of real-world relevance and highlights the importance of data-driven decision-making in a critical industry.