**Project Brief: Adidas Sales Performance Analysis (2020-2021)**

Your goal is to become the expert on our sales data. I need you to analyze the performance of our sales in 2020 and 2021 and provide clear, actionable insights. Your final output should be a professional report or dashboard that answers the following questions:

**Part 1: Data Preparation & Overview**

1. **Clean the Data:** The Invoice Date column is in a weird format. Can you convert it to a proper date format (like YYYY-MM-DD)? Also, check for any missing or incorrect data and fix it.
2. **Calculate Key Metrics:** Calculate the **total sales** and **total profit** for each year (2020 and 2021). What was our overall profitability?

**Part 2: Deep Dive Analysis**

1. **Top Performers:** Identify our **top 5 products** and **top 5 retailers** based on both sales and profit.
2. **Geographic Trends:** Which **region** and **state** had the highest sales? Which were the most profitable?
3. **Seasonal Patterns:** Look at the sales data over time. Are there any trends you, see? Do sales go up or down at certain times of the year (like a specific month or quarter)?
4. **Sales Method Efficiency:** Compare the performance of our different sales methods (like "In-store" versus "Online"). Which method is most profitable?

**Part 3: Final Deliverables**

1. **Summary:** Write a short summary (like an executive summary) of your key findings.
2. **Recommendations:** Based on your analysis, provide at least three data-backed recommendations. For example, "We should focus on expanding our online sales in [Region] because..."
3. **Visualization:** Create a dashboard or a few clear charts that visualize your findings. This could include things like a chart showing sales over time, a bar chart of top products, or a map showing sales by region.

 **Python (with Pandas):** This is ideal for cleaning and manipulating the data. You can use it to convert the Invoice Date column, handle any missing values, and perform complex calculations like the ones needed for profitability analysis.

 **SQL:** While not strictly necessary if you're using Pandas for everything, SQL is a crucial skill for a data analyst. You could use it to practice querying, filtering, and joining data, especially if you were working with a larger database.

 **Excel:** Excel is great for quick data exploration, simple calculations, and creating basic charts. It's a fundamental tool that every data analyst should be proficient in.

 **Power BI:** This is a powerful business intelligence tool for creating interactive dashboards and reports. You can use it to visualize your findings, such as sales trends, top products, and regional performance, and present them in a professional, easy-to-understand format.

**I Renamed coloumn name to use for sql which is easy for understanding here I the changes**

**🔹 Renamed Columns**

* **Price\_per\_Unit → Unit\_Price**
* **Units\_Sold → Quantity**
* **Total\_Sales → Revenue**
* **Operating\_Profit → Profit**
* **Sales\_Method → Channel** (e.g., Online / Offline)
* **Year → Year** (keep same)
* **Month\_Name → Month**
* **Quarter → Quarter** (keep same)