Part 1 (Data Analysis)

Situation

The Treasury team is looking to ensure that its yields on its cash pools are being maximized. As of April 2024, the yields for its cash pools in relation to the following countries/continents and their respective currencies are:

United States/USD: 4%
United Kingdom/GBP: 3.5%
Europe/Euro: 4.5%
Australia/AUD: 3.5%
Canada/CAD: 4.5%

Instructions
Pull the data for the Reserve/Central Bank Interest Rates of the following countries for the period May 2023 to April 2024 (from public domains). Use the last available day of the month if there are multiple days with rates. Answer the questions below and organize the requested data visualization into Google Sheet/Looker Studio or another Data Visualization platform that can be easily reviewed.

1) United States/Federal Reserve Bank: Federal Funds Rate (FFR)
2) United Kingdom/Bank of England: London Interbank Offered Rate (LIBOR)
3) Europe/European Central Bank: Marginal Lending Facility Rate
4) Australia/Reserve Bank of Australia: Cash Rate Target
5) Canada/Bank of Canada: Canadian Overnight Repo Rate Average

Q1:
Create a line graph with all 5 rates that show the monthly Interest Rate values.

Q2:
The Industry Standard is Base Rate (Reserve/Central Bank Interest Rate) minus 0.5%.

Create a bar graph that shows the difference between Uber's Cash Pool Yields and the Industry Standard Rates and order them from greatest variance (negative) to least variance (positive). Some yields may be better than the Industry Standard rates.

Q3:
Create a data visualization of your choice to represent a trend analysis of the prior 12 months (May 2023 to April 2024) that provide key insights.

Q4: Provide a short description (1-2 sentences) of the process *as well as the code* used (if applicable) to pull the data. Please provide the sources for where the data was pulled.

PART 2 (SQL exercise)

Scenario:

As the Treasury Analyst responsible for our subsidiary in France, you manage its treasury operations by monitoring inflows (receivables) and outflows (supplier payments, payroll, and intercompany settlements). The opening cash balance on March 1, 2024, was €4.7 million. Some transactions occur in USD, GBP, and CZK, requiring conversion to EUR for accurate reporting.

As a **Treasury Analyst**, your role is to:

1. Ensure data accuracy and completeness.
2. Categorize transactions and summarize financial movements.
3. Calculate the company's expected cash position at the end of the month.
4. Prepare a structured financial report with insights.

Assessment Instructions:

- You must **write SQL queries** to complete each task.
- Assume the provided dataset is stored in a table named cashflow_forecast. (attached)
- Ensure all monetary values are converted to **EUR** using the exchange rates provided.

Instructions for the Candidate (Output)

Using SQL query, perform the following tasks:

1. **Data Cleaning: Arrange the data into a table based on Transaction Date**
    - Ensure all dates are in YYYY-MM-DD format.
    - Remove any duplicate transactions (if any).
    - Identify any missing or incorrect data.
2. **Data Extraction & Organization:**
    - Sum the total of **receivables**, **supplier payments**, **intercompany transactions**, and **payroll**.
3. **Cash Flow Analysis:**
    - Calculate the **total inflows** (all positive values under Amount).
    - Calculate the **total outflows** (all negative values under Amount).
    - Compute the **Expected Cash Position** at the end of March using: Closing Balance = Opening Balance + Total Inflows−Total Outflows
4. **Summary Report:**
    - Create a final **summary table** displaying the total inflows, total outflows, and closing cash balance.
    - Provide 2-3 bullet points summarizing the financial position of the France subsidiary at the end of March 2024.

Please show all SQL query used in completing each task with a brief explanation of the underlying logic.

PART 3 (Create a dashboard exercise)

Situation

You are a Treasury Analyst at a global service company that pays its contractors through **6 digital wallet providers**. Treasury is responsible for monitoring wallet liquidity and ensuring enough funds are available for weekly disbursements without overfunding.

You have been given a dataset with:

- **Opening balances** for each wallet as of **February 1**
- **Weekly inflows** (top-ups)
- **Weekly outflows** (contractor payments)
- Data spanning **12 weeks (Feb–Apr)**

Dataset: treasury_wallet_dashboard_dataset.xlsx

The Tasks;

Using the dataset provided, build a **Treasury Dashboard** that clearly shows:

1. **Weekly Cash Movement per Wallet**
    - Visualize **weekly inflow and outflow trends** for each wallet
    - Use bar/line graphs to show movement over time
2. **Weekly Wallet Balances**
    - Calculate and visualize **weekly opening and closing balances** per wallet
    - Display balance trend per wallet (e.g. line graph or stacked area chart)
3. **Wallet Ranking**
    - Identify and display the **top 3 wallets** by **weekly closing balance**
    - Include a summary table or dynamic visual that updates per week

Optional Task

- Add a visual flag or alert for any week a wallet's **closing balance falls below a defined threshold** (e.g., €50,000)
- Add an interactive element to filter by wallet or week

Submission Instructions

- Submit your dashboard
- Include a 3–5 sentence summary of your findings or insights from the data
- Please ensure your visualizations are labelled and clear to understand.