**Data Analytics & Visualization**

* ***Sales Analytics Sprint  
    
  Objective:***
  + SQL (Assume both files are imported as SQL tables):
    - Write a query to find total sales per city.
    - Find the top 3 customers by total sales amount.
    - Display monthly sales (sum of Amount grouped by month).
    - Write a query to find customers who haven’t made any purchase.
    - Find the average age of customers per city.
  + Excel :
    - Import SQL query results into Excel (Result of 1st SQL Question).
    - Create a pivot table to show total sales per product.
    - Use conditional formatting to highlight top 3 performing cities from the 1st question's result set “Total Sales per City”.
    - Build a dashboard showing:
      * Total Revenue
      * Number of Unique Customers
      * Average Sale per Customer
      * Monthly Sales (Line Chart)

**Bonus Challenges**

* + Add a slicer in Excel to filter the dashboard by City or Product. (Additional to 2nd Excel Question)
  + Visualize the top 5 products in a bar chart. (Additional to 2nd Excel Question)

**Note:** *Both SQL and Excel Assignments are compulsory to submit*

**Dataset**: [PS - Excel + SQL Data Set](https://docs.google.com/spreadsheets/d/1imgOtKzKAHOo7ZJnSt_yO045RNWEjGUZS1Lj5RQ61Ac/edit?usp=sharing)

* ***Attrition Intelligence Dashboard***

***Business Scenario:***

An HR department wants to overhaul their reporting by creating a full-journey dashboard from hiring to resignation. The aim is to improve talent retention and manager effectiveness.

**Power BI Focus:**

* Hierarchical drilldowns (company → department → employee)
* Predictive metrics using DAX
* Multi-page report storytelling

***Objective:***

**Questions to be answered:**

* Which combinations of Job Role, Department, and Job Level show the highest voluntary-attrition rates?
* How do these rates differ by Business Travel frequency and OverTime status?
* Using the available features (Age, Distance from Home, Job Satisfaction, Environment Satisfaction, etc.), which top five variables most strongly explain whether an employee leaves?
* How does the risk profile change across Age brackets (e.g., <30, 30-45, >45)?
* Is higher Job Involvement or Relationship Satisfaction associated with better Performance Ratings?
* At what point do increases in Training Times Last Year stop yielding higher performance?
* For similar Job Roles and Job Levels, do Monthly Income and Percent Salary Hike differ significantly by Gender or Marital Status?
* How does Total Working Years or Years Since Last Promotion influence current pay?
* Does a lower Work-Life Balance score correlate with greater OverTime frequency and higher attrition?
* Which departments manage to keep both high Work-Life Balance and low attrition simultaneously?
* How long, on average, do employees stay in their Current Role before their next promotion, and how does that vary by Job Level?
* What share of high-tenure employees (≥10 Years at Company) still receive regular promotions or salary hikes?

**Deliverables:**

* Attrition heatmaps and forecasting indicators
* Correlation matrix between job roles, satisfaction, and turnover
* HR KPI report with filters by tenure and department

**Dataset**: [HR-Employee-Attrition Dataset](https://docs.google.com/spreadsheets/d/10lF7tl4iRCs6koMtxJACZHsUSMWmbGGLLua-R3r573c/edit?usp=sharing)