Power BI – HR Analysis

1. **Data Import and Transformation: Can you demonstrate how to import the employee data from Excel files and transform it to remove any unnecessary columns or rows in Tableau?**

   Answer : let Source = Excel.Workbook(File.Contents("C:\Path\To\Your\File.xlsx"), null, true), EmployeeTable =Source{[Item="EmployeeTable"]}[Data], RemoveColumns = Table.RemoveColumns(EmployeeTable, {"Column1","Column2"}), RemoveNullRows = Table.SelectRows(RemoveColumns, each not List.IsEmpty(List.RemoveMatchingItems(Record.FieldValues(_),))) in RemoveNullRows

2. **Basic Visualization: Create a simple bar chart in Tableau to visualize the distribution of employees by department.**

   Answer: Create a bar chart with the 'Department' field on the axis and the count of employees on the values.

3. **Filtering Data: How can you create a filter in Tableau to allow users to filter employees based on their job role?**

   Answer: Add a slicer visualization, select the 'Job Role' field, and users can filter employees based on job role.

4. **Joining Data: Explain what kind of join you would use in Tableau to combine the employee data with the in-time and out-time data, and why.**

   Answer: Use an inner join to combine employee data with in-time and out-time data. This is assuming each record in the employee data has a corresponding record in the in-time and out-time data.

5. **Calculated Fields: Create a calculated field in Tableau to determine the age group of employees (e.g., under 30, 30-40, 40-50, over 50)**

   Answer: AgeGroup = SWITCH(TRUE(), 'Employee'[Age] < 30, "Under 30", 'Employee'[Age] >= 30 && 'Employee'[Age] < 40, "30-40", 'Employee'[Age] >= 40 && 'Employee'[Age] < 50, "40-50", 'Employee'[Age] >= 50, "Over 50", BLANK())

6. **Measures in Tableau: Calculate the average monthly income for employees in Tableau and display it in a card visualization**.

   Answer: AverageMonthlyIncome = AVERAGE('Employee'[MonthlyIncome])

7. **Time Analysis: How can you use Tableau to calculate the year-over-year growth in monthly income for employees?**

   Answer: YoYGrowth = CALCULATE(DIVIDE([TotalIncome] - CALCULATE([TotalIncome], DATEADD('Calendar'[Date], -1,YEAR)), CALCULATE([TotalIncome], DATEADD('Calendar'[Date], -1, YEAR))), ALL('Calendar'))

8. **Hierarchies: Create a hierarchy in Tableau for the date and time columns to allow for easy drill-down analysis.**

   Answer: Create a hierarchy by dragging 'Year', 'Month', and 'Day' columns into the hierarchy pane.

9. **Advanced Calculation in Tableau: Calculate the attrition rate for each department in Tableau and visualize it using a heatmap.**

   Answer: AttritionRate = DIVIDE(
   CALCULATE(SUM('Employee'[Left])),CALCULATE(COUNTROWS('Employee')), 0) * 100

10. **Advanced Data Join: Combine the employee data with a different dataset in Tableau using an appropriate join and explain potential considerations.**

    Answer: Use a left join to preserve all records in the employee data, potentially leading to null values in the additional dataset.

11. **Complex Filtering: Create a dynamic filter in Tableau that allows users to filter employees based on both department and job role simultaneously.**

    Answer: Create a slicer with both 'Department' and 'Job Role' fields.

12. **Advanced Time Analysis: Calculate the moving average of monthly income over a rolling 3-month period in Tableau using calculated fields.**

    Answer: See previous responses for the calculation of the moving average.

13. **Conditional Formatting: Apply conditional formatting to a table in Tableau to highlight employees with the highest and lowest monthly incomes.**

    Answer: Apply conditional formatting to the 'Monthly Income' column in a table visualization based on values.

14. **Parameter Tables: How can you use parameter tables in Tableau to allow users to set their own thresholds for performance ratings and visualize the results?**

    Answer: Create a parameter table with thresholds, then use measures that refer to these parameters for performance ratings.

15. **Custom Visualizations: Create a custom visualization or use a third-party visual in Tableau to present data in a way that's not available in the default Tableau visuals.**

    Answer: Explore custom visuals from the marketplace or create custom visuals using tools like Charticulator.

16. **Aggregations: Explain how to optimize performance in Tableau by creating aggregations for large datasets.**

    Answer: Define aggregations to pre-calculate and optimize summaries for large datasets.

17. **What-If Analysis: Use Tableau's What-If parameters to show how attrition rates change when you adjust different factors (e.g., salary increase).**

    Answer: Use What-If parameters to adjust factors like salary increase and observe the impact on attrition rates.

18. **Cross-Filtering: Demonstrate the use of cross-filtering between visuals in Tableau to provide an interactive experience for users.**

    Answer: Enable cross-filtering between visuals so that selecting a data point in one visual filters other.

19. **KPIs: Create Key Performance Indicators (KPIs) for employee performance in Tableau using calculated fields.**

    Answer: Create measures for various KPIs like sales per employee, customer satisfaction index, etc.

20. **Dynamic Reporting: Show how to make a report dynamic in Tableau by using actions, filters, and parameters to switch between different views of the data.**

    Answer: Use bookmarks and buttons to switch between different report views or apply filters.