**Power BI Project Solution**

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|  | **About Dataset** |
|  | UniqueSystem is a company with employees whose details are stored in the given dataset. The dataset includes various employee attributes such as employee ID, name, position, department, and date of birth, date of joining, experience years, phone number, email, address, salary, gender, marital status, nationality, country, emergency contact details, education qualifications, skills, benefits, and attendance details. With this information, UniqueSystem can track and manage their workforce effectively. |
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|  | **DATA SET** |
|  | We have chosen an HR dataset with 35 columns and 50 rows to create a Power BI dashboard report that will be optimized for performance and user readability. The dataset contains important HR-related information such as employee data, salaries, job titles, and performance metrics. Although learners can use up to 1000 rows of data, we have decided to use a smaller dataset for better optimization and quicker report rendering. |
|  | **PROJECT TASKS** |
| **A** | **Installation** |
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| **Q** | Downloading **Power BI Desktop.** |
| 1 | [Go to https://powerbi.microsoft.com/en-us/desktop/ and select "Power BI Desktop" from the "Products" tab.](https://powerbi.microsoft.com/en-us/desktop/) |
| 2 | Go to the Power BI Desktop download page |
| 3 | Click "Download free" |
| 4 | Select your system version (32-bit or 64-bit) |
| 5 | Click "Download" |
| 6 | Locate the downloaded file in your downloads folder |
| 7 | Double-click to start the installation |
| 8 | Follow on-screen instructions |
| 9 | Launch Power BI Desktop from the desktop shortcut or the Windows Start menu. |
| Instruction: | Download and install Power BI Desktop from Instruction: Download and install Power BI Desktop from the official website and start exploring its features for creating impactful reports. |
| **B** | **Data Cleaning** |
| 1 | Show me how to append the sales table from 2020-2022 into one table? |
| Hint | To combine multiple tables in Power Query of Power BI, use the "Append Queries" feature and select the relevant tables, ensuring they have the same structure. Renaming tables and organizing them in folders can help with navigation. |
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| 2 | Display the new data types for each column in the dataset after applying changes in Power Query. |
| Hint | Use the "Change Type" option in Power Query to alter data types for each column. |
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| 3 | Recreate the Employee Name column in Power Query by capitalizing each word. |
| Hint | Utilize the "Replace Values" option in Power Query to edit the Employee Name column to have each word capitalized. |
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| 4 | Show the number of duplicate values removed from the dataset using Power Query. |
| Hint | Use the "Remove Duplicates" option in Power Query to remove duplicate values from the dataset. |
| 5 | Create a conditional column in Power Query that shows the level of experience (Fresher, Junior, Senior) based on the Salary column in the dataset. |
| Hint | Create a conditional column using the "Add Conditional Column" option in Power Query and set the condition to display the level of experience based on the Salary column. |
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| 6 | Demonstrate how the Employee Attendance Table can be merged into the EMP Details Table using Power Query on the basis of Employee ID. |
| Hint | Merge the two tables in Power Query using the "Merge Queries" option and match the tables on the Employee ID column. |
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| 7 | Solve for the age of each employee in the dataset using the Birthdate column in Power Query. |
| Hint | Calculate the age of employees by subtracting their birth date from the current date. Convert the duration to total years and round up the values. Use Power Query functions for data transformation. |
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| 8 | Explain how to use the Power Query Date function to extract the year from a date column in the dataset. |
| Hint | Access the "Transform Data" tab in Power Query and choose the "Date. Year" function to extract the year from a date column. |
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| **C** | **Data view** |
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| 1 | Display all geographical datasets in Power BI along with their corresponding data categories, such as city, country, state, and region. |
| Hint | To show geographic data with its categories like city, country, state, and region, use Power BI's map visual. It's an easy and effective way to analyze and display geographical information. |
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| **D** | **Visual Insights** |
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| 1 | What is the count of employees in the dataset? |
| Visual Used | Card visual. |
| Hint | This visual displays the count of employees in the form of a card. |
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| 2 | What is the average salary of employees in the dataset? |
| Visual Used | Card visual. |
| Hint | This visual displays the average salary of employees in the form of a card. |
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| 3 | How many departments are there in the dataset? |
| Visual Used | Card visual. |
| Hint | This visual displays the count of departments in the form of a card. |
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| 4 | How does the sum of salary vary with experience levels of employees in the dataset? |
| Visual Used | Pie chart. |
| Hint | This visual displays the sum of salary for each experience level in the form of a pie chart. |
| 5 | How does the sum of salary vary with age groups of employees in the dataset? |
| Visual Used | Donut chart. |
| Hint | This visual displays the sum of salary for each age group in the form of a donut chart. |
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| 6 | How does the total salary and count of employees vary with year in the dataset? |
| Visual Used | Line and clustered column chart. |
| Hint | This visual displays the sum of salary and count of employees for each year in the form of a line and clustered column chart. |
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| 7 | How many employees are there from each country in the dataset? |
| Visual Used | Slicer. |
| Hint | This visual displays a slicer to select a country and filter the data accordingly. |
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| 8 | What is the salary and department of each employee in the dataset? |
| Visual Used | Table visual. |
| Hint | This visual displays a table with columns for employee, sum of salary, and department. |
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| 9 | How does the total attendance vary with year and gender in the dataset? |
| Visual Used | Stacked column chart. |
| Hint | This visual displays the count of total attendance for each year and gender in the form of a stacked column chart. |
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| 10 | How many employees are there in each department and gender in the dataset? |
| Visual Used | Clustered bar chart. |
| Hint | This visual displays the count of employees for each department and gender in the form of a clustered bar chart. |
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| 11 | How can you add the company name and logo to the Power BI report? |
| Visual Used | Text Box |
| Hint | Use the text box visual and insert the logo image and type the company name as the text. |
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| **E** | **Published Report** |
| 1 | Power BI reports can be published and shared with others, making it easy to collaborate and work with others on data analysis projects. |
| Hint | Power BI's ability to publish and share reports facilitate seamless collaboration and teamwork in data analysis projects. |