**Assignment No: BI001**

**Introduction**:

This document provides a comprehensive explanation of the process followed to analyze student test data and visualize the results. The report encompasses two main parts: Data Analysis and Data Visualization. Each part is detailed with clear instructions and examples.

**Part 1: Data Analysis**

a. Calculate Student Score:

Match student responses with correct answers from the coding sheet.

Assign a score of "1" for matching responses and "0" for non-matching responses.

b. Calculate Test Score:

Determine the total number of correct answers for each student.

c. Calculate Percentage Correct:

Calculate the percentage of correct answers for each student.

d. Determine Student Level:

Use the percentage correct to determine the proficiency level of each student.

Example:

For Test Code "WLBB21", if a student's response matches the correct answer (e.g., "B"), assign a score of "1". If not, assign a score of "0".

**Part 2: Data Visualization (Using Any BI Tool)**

a. Create Slicers:

Implement slicers for Grade, Subject, District, and Block, ensuring synchronization.

b. Map Chart:

Visualize the number of participating students across different locations.

Enable drill-down options for districts and blocks.

c. KPIs:

Use meters or cards to display total students and average percentage correct.

d. Top 5 Questions Table:

Present a table listing the top 5 questions along with their descriptions.

e. Bottom 5 Questions Table:

Provide a table listing the bottom 5 questions along with their descriptions.

**FOLDER CONTAINS –**

**1.Analysis-2.xlsx –**

My analysis is in result sheet. As per the question I have analyse each question and compare it to its respective answers and put 1 for correct and 0 for wrong.

Again, I have created a helper sheet named Q&A, which contains all the question\_id and answers for each class. So that it will be easy for me write the formula.

Formula I have used-

***=IF('Data Sheet'!I2 = 'Q&A'!B$2,1,0)*** ~~~ for grade 4 question 1

Test score column contains the sum of all the write answers.

Correct answer column contains the percentage.

Test\_score / 36 \* 100

And at last, comes the level.

|  |  |
| --- | --- |
| **Level** | **Condition for Correct Answer Percent** |
| Beginner | Less than or equal to 30% |
| Basic | greater than 30% and less than or equal to 50% is "Basic" |
| Intermediate | greater than 50% and less than or equal to 80% is "Intermediate" |
| Advanced | greater than 80% is "Advanced" |

To achieve this I have used –

***=IF($I2<=30%, "Beginner", IF($I2<=50%, "Basic", IF($I2<=80%, "Intermediate", "Advanced")))***

Which check all the conditions and put the Level from Level sheet.

**2. Gujrat.pbix** –

It contains 4 sheets. **1st sheet** has 3 slicers for grade, subject, distict and block(nested) and a map chart showing number of students from each district. Size of the grey bubble determines the number of the students. Hovering over the bubbles will show the name of state (in this case Gujrat only, district, block and number of student.

And two cards, containing the total number of students and average of their percentage for each district and block.

**Sheet2** contains the same slicers and a tree map for better visualization of number of students.

**Sheet3** contains the Top5 and Bottom 5 questions asked in the exam across all the grades (as per the question) with a slicer of question topic.

In **Sheet4** I have a added all the question with a slicer of question topic to check which question occurs how many times.

In the **pbix** file, I have added another file named, **TOP5Q**.

It has 3 sheets. The 1st sheet is QUESTIONS. It shows all the questions and there frequency (number of occurrence). And after removing duplicate values we can easily extract the top and bottom 5 asked questions in the exam.

And other two sheets are top5 and bottom5 questions.