# STORY 1 – Business Insights & Analysis

## Case Study Title:

Student Performance & Attendance Analytics Dashboard

## Objective of the Case Study:

To analyze a student's academic performance by comparing Internal-1, Internal-2, and Final marks, along with attendance trends, to determine overall performance and grade.

## Key KPIs / Metrics Analyzed:

1. Total Final Marks
2. Overall Percentage
3. Monthly Attendance Trend

## Insights Observed:

1. Physics and Engineering Graphics show the highest Internal-1 scores.
2. Programming is the weakest subject with the lowest scores.
3. Attendance declines from 95% to 82% across months.
4. Chemistry and Maths show consistent performance.
5. Total Final = 264, Percentage = 57.86%, Grade = C.
6. Physics contributes the highest share in final marks.

## Business Value / Decision Making:

1. Helps faculty identify weak subjects for focused improvement.
2. Declining attendance alerts faculty for early intervention.

# STORY 2 – Technical Implementation Using Power BI

## Power BI Desktop – Data Import & Setup: -

Imported Student Details, Marks, and Attendance tables.
- Cleaned headers, formatted dates, and validated numerical fields.

## Power Query – Transformations Applied:

- Removed duplicates - Changed data types
- Cleaned text fields
- Filtered incomplete rows
- Created custom Percentage column

## Power Pivot – Data Modeling:

- Tables: Student_Details, Marks, Attendance
- Fact Tables: Marks, Attendance
- Dimension Table: Student_Details
- One-to-Many relationships based on Student_ID
- Calculated columns added for totals and percentage

## Power View – Visualizations Used:

- Bar Chart: Internal comparison
- Donut Chart: Final marks distribution
- Line Chart: Monthly attendance trend
- Card Visuals: KPIs (Final, Percentage, Grade)
- Slicer: Student ID

## DAX Measures Created:

```
Total_Final = SUM(Marks[Final])
Percentage = DIVIDE([Total_Final], 456) * 100
Grade =
IF([Percentage] >= 85, "A", IF([Percentage] >= 70, "B", IF([Percentage] >= 50, "C", "D")))
```

**Final Output:** Single-page dashboard with marks comparison, attendance trends, and KPIs.