**🐘 Case Study**

***“The Cost of Caring: Analyzing Elephant Sanctuary Expenses and Elephant Health Outcomes”***

**Scenario Summary**

An elephant sanctuary in Africa tracks its elephants’ basic health metrics and the monthly cost of caring for each elephant. They want to understand:

1. **Which elephant incurs the highest care costs relative to their weight and health scores.**
2. **Whether heavier elephants are costlier to maintain.**
3. **The monthly total cost of running the sanctuary.**

**Sample Dataset**

A sample dataset for immediate use is provided. You can extend it, simulate further, or visualize as needed:

elephant\_sanctuary\_costs.xlsx

Add a Monthly\_Total\_Cost column calculated as Food + Medical.

**Potential Analysis Tasks**

✅ Calculate each elephant’s total monthly care cost  
✅ Plot weight vs. total cost to check correlation  
✅ Identify the most expensive elephant per kg  
✅ Determine average health score per age group (young <15, adult 15-35, senior >35)  
✅ Visualize the sanctuary’s total monthly operational cost  
✅ Create a simple linear model predicting cost based on weight and health score

A final markdown report or RMarkdown HTML output with plots, interpretations, and recommendations