Understanding Statistics in Layman, Like That of a Grade Six Student
Ma. Jimda Tarriela viuda de Mariano, B.S. Computer Engineering

Preface:

    While fixing the files in my laptop that had been screaming "Get my replacement already please, I'd no longer be with you for loooooong, sobs, sobs, sobs." I randomly came across my notes in Statistics from my Project Sparta Days for Data Engineering. As I was browsing, a pang hit me. The same sting of discomfort hit me when I was learning Statistics in high school and in college. I was spared from graduate school since I was unable to finish my masteral study.

    I would like to put an end to this discomfort. My thoughts… if only I understood Statistics by heart, the way I understood arithmetic, integers and basic algebra, I would not be this frustrated. Why? I keep on bumping into Statistics! Especially now that I am a strong and passionate advocate of Artificial Intelligence. This won't do. I have to make peace with my past… Behold this course I am drafting/drafted and for me to be its first enrollee!

Course Outline:

I. Understanding Numbers, Range and Arrays
- Natural Numbers, Counting Numbers and Integers
- Range Definition and Scope of Range
- Arrays:
  - Referencing Elements in an Array
  - Ordinal Position of an Element in an Array
- Consolidating Array and Range
  - What happened? Expound: Why the Element Is Not as We Guessed Based On the Given Range? Why Is It Highest Range -1?
- Class Activity: Role Playing, Each Student Role Plays as an Element of the Array While the Teacher Tells Different Scenarios to Depict the Range then the Students Stays, Leaves or Regroup Accordingly. Think of the game The Boat is Sinking Group Yourselves into…

II. Understanding that Elements are the same as the Data, and the Role of Statistics Surrounding Data
- Still Pondering What Topics to Include in this Section and What Class Activity Fits, Role Playing Will Still be One for Sure

III, Introducing Analysis
- What is Analysis
- Why the Need for Analysis?
- Class Activity: Lecture Type, Discussion Real Life Situation Example: Small Business (Like a Sari-Sari Store in the Philippines, What Data are Available from this Small Business and What to Make of Out of the Available Data; or the School the Children goes to, Discuss How Many Students are Enrolled to the School, How Many Grade Levels are There, What is the Teacher to Student Ratio, How Many Students are in Each Class and Conduct a Simple Analysis on these Data and What to Make of Out of the Data Available)
- What is Statistical Analysis? Reinforce the Lecture via Class Workshop

IV. What is Analytics? How is it Different from Analysis?
- Presentation of a More Obvious Discussion to fully Grasp the Difference
- Build up to Data Analytics Where a Lot of Statistical Analysis Happen
- Introducing Descriptive, Diagnostic, Predictive and Prescriptive Analytics

V. A Dive on the Meats:
- Sum, Ratios, Central Tendency [Mean, Median Mode], Variation [Range, Variance, Standard Deviation], Shape [Skewness, Kurtosis], Position [Percentiles, Quartiles]

V. Appreciation of Statistical Analysis and Data Analytics with Excel and Python
- Hands-on Electronic Spreadsheet and Coding Activity
- Data Summary, Tabulation and Visualization

VII. Assessment and Evaluation of the Course