Be a Python Data Scientist

Aloha,

this repository is a collection of resources and materials for the Hoomaluo Labs School first Python course. This course introduces students to data science, computational thinking, Python programming, and mathematics.

The course is structured into **three project** (units), each one consisting of **five to six weeks** (modules).

To support the understanding of mathematical concepts, we will use the following textbook. We ask that students either bring a physical printout or purchase the hardcopy on Amazon.
Let's Play the Ukulele Available online and Available on Amazon

Data science learning outcomes

Outcome	Example
Recognizing the problem	What is the problem about? What data is involved?
Defining the problem	What are the inputs and desired outputs? What are the questions to ask about inputs that give me desired outputs? What are my assumptions?
Structuring and analyzing the problem	What methods do I need to solve this problem? What steps do I need to take to get to the answer? How to structure my program?

Mathematics learning outcomes

Outcome	Example
Numer System	What are whole numbers? What are integers? What are rational and irrational numbers?

Expressions	Working with integer exponents. Working with scientific notation. Working with binary notation. Working with summations.
Equations	Recognizing proportional and non-proportional relationships. Solving linear equations. Intersection of two linear equations
Functions	Define, evaluate, and compare functions. Understand what functions are. Describing functions algebraically, graphically, numerically in tables, and verbally. Use functions to model relationships between quantities.
Geometry	Understand and apply the Pythagorean Theorem. Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.
Statistic and Probability	Investigate patterns of association in bivariate data. Understand concepts of percentage, average, median, mode, and standard deviation. Create and interpret scatter plots. Fit straight lines to scatter plots.