

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 data science learning outcomes are:

| 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? |

The mathematics outcomes are:

| 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 |

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| | 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. |