EPPS Math and Coding Camp

Day 1: Fundamentals

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1 Introduction to Fundamentals

- Variables and Constants
- Sets
- Operators
- Relations
- Level of Measurement
- Notation
- Proofs

2 Variables and Constants

- Definition and Examples
- Applications in Research

3 Sets

- Definition and Types
- Set Operations
- Venn Diagrams

4 Operators

- Basic Operators: +, -, *, /

- Advanced Operators: Summation, Product

- Set Operators: Union, Intersection, Difference

5 Relations

- Binary Relations

- Functions as Relations

6 Level of Measurement

- Nominal, Ordinal, Interval, Ratio

- Examples and Applications

7 Notation

- Common Symbols and Their Meanings

- How to Read Mathematical Expressions

8 Operators

8.1 Summation and Multiplication Notations

Summation Notation

$$\sum_{i=1}^{3} x_i = x_1 + x_2 + x_3$$

Multiplication Notation

$$\prod_{i=1}^{3} x_i = x_1 \times x_2 \times x_3$$

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