LEARNING JOURNEY COMPUTING

PROGRAMMING WITH LISTS

GOLDEN THREAD QUESTION

This unit introduces you to how data can be represented and processed in sequences, such as lists and strings. The lessons cover a spectrum of operations on sequences of data, that range from accessing an individual element to manipulating the entire sequence. Great care has been taken so that the selection of problems used in the programming tasks are realistic and engaging: you will process solar system planets, book texts, capital cities, leaked passwords, word dictionaries, ECG data, and more!

Lists

WE ARE HERE

What is data?

What is a list?

Trace through programs that manipulate lists

Create lists and access individual elements

Perform operations on lists

Perform string operations

Iteration

What is iteration?

Trace through programs that use count-controlled iteration with lists

Use count-controlled iteration to iterate over lists

Use iteration to iterate over strings

Variables in iteration

Use variables to keep track of counts

Use variables to keep track of sums

TUDOR HABITS
You will develop grit and resilience as you use your computational thinking skills to learn more advanced programming methods with lists

VOCABULARY
List, element, string, iteration, variable