



Introduction to Data Structures

What are data structures?

Manage and store collection of values in a single variable

Underlying principles for data structures are programming-language agnostic

Each programming language implements data structures in a different way

Why use data structures?

Organize data, leading to efficiency

Imagine a bookstore with no organization – it's hard to find specific books!

More complex applications demand more calculations

Choice of data structure can greatly increase speed

Difference between a program running in a few seconds or days

Python data structures

Composite Data Types

List

Dictionary

Tuple

Set

Primitive Data Types

String

(sequential collection of characters)