

Introduction and Instructions

Mental Model of Computing Operations, you will distinguish between data types and explain how scope impacts their storage and execution. You will learn how to define objects and when to pass an object, a local variable, or global variable into a function. You will also practice debugging your code, which will help you solve errors that may appear in your code. This is an essential skill for programmers. By the end of this week, you will be able to implement web animations using JavaScript.

This **foundations** week is designed to reinforce foundational programming concepts in JavaScript.

Learning Outcomes

Course Learning Outcomes Addressed

- Explain the key web programming concepts
- Build web applications using JavaScript, HTML, and CSS

By the end of this week, you will be able to:

1. Explain how objects are stored in memory while a code is being executed
2. Identify whether a variable is in global, local, or block scope
3. Identify the parameters (a hard value or a reference to a value) to pass into a function
4. Check the data type of a value stored in a variable
5. Implement web animations using JavaScript
6. Assign primitive types and object types to variables

Activities

Key activities

- Knowledge Checks 2.1 through 2.3
- Discussions
 - What We Should be Thinking about When We Code
 - Global, Local, and Block Scope
- Coding Activities
 - Basic Types
 - Scope
 - Equals Operator
- Coding Assignments
 - Graphics Animation of the Random Walk Assignment

Self-study activities

- Graphics Animation of Projectiles
- Random Walk
- Big Bang Exercise