

Week 1 – Intro to JavaScript – Variables and Loops

Overview

In this lesson, we'll explore how to work with JavaScript variables, loops, and simple operations. These concepts will help you understand the foundations of programming while applying them to practical scenarios.

Videos to Watch Before Starting

1. [JavaScript Variables Explained](#)
 2. [Loops in JavaScript](#)
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Practice Exercises

1. Building a Domain Name

A local company is setting up a website and needs help combining their brand name with a domain extension.

Task:

- Create a variable label and assign it the value "keyincollege".
- Create another variable tld and assign it "ca".
- Combine these into a third variable domainName to form "keyincollege.ca".

Prepare the output to display:

Domain Name: keyincollege.ca

2. Checking a Trusted Domain

A web security system checks if the company domain matches "keyincollege.ca".

Task:

- Use the domainName variable from the previous question.
- Create a variable isKeyin that checks if domainName is equal to "keyincollege.ca".

Prepare the output to display:

Is Keyin College Domain: true

3. Flagging Suspicious Domains

The system flags domains that do not match the trusted format.

Task:

- Create a variable isNotKeyin that holds the opposite of isKeyin.

Prepare the output to display:

Suspicious Domain Detected: true

4. Generating IP Addresses for Devices

A company needs unique IP addresses for its network devices. Each IP address consists of four random numbers (bytes).

Task:

- Create four variables (byte1, byte2, byte3, byte4) with random values between 0 and 255.
- Combine them into a single variable ipAddress in the format "byte1.byte2.byte3.byte4".

Prepare the output to display:

Generated IP Address: 192.168.1.42

5. Creating a Multiplication Table

A student wants to memorize their multiplication tables more effectively.

Task:

- Define a variable table (e.g., 12).
- Use a loop to print the multiplication table for that number from 1 to 10.

Prepare the output to display:

12 X 1 = 12

12 X 2 = 24

...

12 X 10 = 120

6. Sorting Shipment Weights

A logistics app categorizes shipment weights into even and odd numbers for better record-keeping.

Task:

- Write a program that loops through the numbers 1 to 100.
 - Print all even and odd numbers with labels such as Even: 2 or Odd: 3.
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7. Summing Even Weights

The logistics app also calculates the total weight of even shipments.

Task:

- Modify the program from question 6 to calculate the sum of all even numbers between 1 and 100.
- Display the total sum at the end.

Prepare the output to display:

Sum of Even Weights: 2550

8. Identifying Perfect Fund Allocations

A financial application needs to identify perfect numbers for budgeting.

Task:

- Define a variable allocation (e.g., 28).
- Write a program to find the divisors of allocation and calculate their sum.
- Check if the sum equals the allocation.

Prepare the output to display:

28 is a Perfect Allocation: true

9. Validating Product IDs

E-commerce platforms require product IDs to be prime numbers for uniqueness.

Task:

- Define a variable productID (e.g., 31).
- Write a program to check if it is a prime number.

Prepare the output to display:

Product ID 31 is Prime: true

Research Assignment

Research and be ready to discuss the difference between let, const, and var in JavaScript. Come prepared to share examples in the next session.