Coding With Dash and Dot
Suitable for: G1 - G3

Prerequisite: Basics of Block Programming: Scratch Junior Level I
Duration: 20 Weeks
Classes per Week: 1 class (45 minutes each)

Course Overview:

This course introduces young learners to coding through fun, interactive activities with Dash and Dot robots. Using the Blockly app, students will learn the basics of programming concepts such as sequencing, loops, and conditionals. By the end of the course, students will be able to create simple programs that control Dash and Dot's movements, sounds, and interactions.

Covered Topics

Unit 1: Introduction to Dash and Dot
- Introduction to robots and the world of Dash and Dot
- Overview of the Blockly app and how to use it
- Basic robot commands: rotation, lights, and sounds

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Unit 2: Movement and Sequencing
- Using look blocks and creating loops with "Repeat Forever"
- Programming Dash to follow a path and understand sequences
- Creating basic routines and eye patterns for expressive interactions

Unit 3: Interactivity with Conditions and Sensors
- Introduction to conditional blocks like "If Then Else"
- Programming Dash to respond to voice commands and claps
- Advanced conditionals to create interactive responses

Unit 4: Obstacle Detection and Avoidance
- Using Dash's sensors for obstacle avoidance
- Creating programs that allow Dash to navigate around objects
- Developing simple problem-solving skills through robot navigation

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Unit 5: Advanced Control
- Programming Dash to perform more complex tasks using multiple conditions
- Final project: Combining movements, sounds, and conditions to create a unique routine

Materials Needed:
- Dash and Dot Robot
- Computer or tablet
- Access to Internet
- Chrome Browser

Assessment

At the end of each lesson, learners will be assessed on their understanding of basic coding concepts such as sequencing, loops, and conditions. Assessments will focus on creativity, problem-solving, and the functionality of their programmed routines.

Certification

A certificate of completion will be awarded to students who successfully complete the course, recognizing their foundational coding skills with Dash and Dot.