




# 2021 CODING & AI CAMP

## LEVEL 1

LEVEL 1	
MONDAY	TUESDAY
<ul style="list-style-type: none"> <li>• Creating and Storing Variables</li> <li>• Data Security</li> <li>• Data Storage</li> <li>• Designing Objects and Images</li> <li>• Event Handling</li> <li>• Mathematical Operators</li> <li>• Network Reliability</li> <li>• Project Planning and Organization</li> <li>• Scripting Object Movement</li> <li>• User Account Creation</li> <li>• Visual Programming Languages</li> </ul>	<ul style="list-style-type: none"> <li>• Algorithmic Thinking</li> <li>• Artificial Intelligence</li> <li>• Composing Music</li> <li>• Computer Simulation</li> <li>• Elements of Music</li> <li>• Loops</li> <li>• Object Visibility</li> <li>• Recognizing Patterns and Sequences</li> <li>• Responsible Online Research</li> <li>• Text-to-Speech</li> </ul>
WEDNESDAY	THURSDAY
<ul style="list-style-type: none"> <li>• Abstraction</li> <li>• Algorithms</li> <li>• Augmenting Online Games</li> <li>• Computational Logic</li> <li>• Conditional Logic</li> <li>• Digital Citizenship</li> <li>• Encapsulation</li> <li>• Graphical User Interface</li> <li>• Inheritance</li> </ul>	<ul style="list-style-type: none"> <li>• Classes and Objects</li> <li>• Creating Arrays and Lists</li> <li>• Data Types</li> <li>• Functions and Methods</li> <li>• Logic and Syntax Errors</li> <li>• Programmer Comments and Breaks</li> <li>• Programs vs. Scripts</li> <li>• Project Management</li> <li>• Virtual Learning and Online Resources</li> </ul>
FRIDAY	  
<ul style="list-style-type: none"> <li>• Delegating Workload</li> <li>• Development and Implementation</li> <li>• Exception Handling</li> <li>• File Backup and Online Storage</li> <li>• Program Maintenance</li> <li>• Public Speaking and Presentation</li> <li>• Teamwork in Project Management</li> <li>• Testing and Debugging</li> <li>• User Experience Design</li> </ul>	

## **PROJECTS & ASSIGNMENTS COMPLETED IN CAMP THIS WEEK:**

- Music Project in Scratch
- Game Remix Project in Scratch
- Individual Project in Scratch
- Python Modules & Assignments
- Tynker Assignments
- Daily Classwork.

All projects, assignments, and classwork can be accessed via their online Scratch, Tynker, and Codecademy accounts.

## **ABOUT SCRATCH:**

Scratch is a block-based visual programming language and online community targeted primarily at children. Users of the site can create online projects using a block-like interface. The service is developed by the MIT Media Lab, has been translated into 70+ languages, and is used in most parts of the world. Scratch is taught and used in after-school centers, schools, and colleges, as well as other public knowledge institutions. As of May 2019, community statistics on the language's official website show more than 40 million projects shared by over 40 million users, and almost 40 million monthly website visits.

## **ABOUT TYNKER:**

Tynker is an educational programming platform aimed at teaching children how to make games and programs. Instead of typing the source code, you visually drag blocks of code and snap them together. The visual design and principles are based on the free Scratch. Tynker is based on HTML5 and JavaScript, and can be used in the browser without plugins, as well as on tablets and smartphones. Another difference is that Scratch is a free open source project, while Tynker is a commercial product.

## **ABOUT PYTHON:**

Python is an interpreted, high-level, general-purpose programming language. Created by Guido van Rossum and first released in 1991, Python's design philosophy emphasizes code readability with its notable use of significant whitespace. Its language constructs and object-oriented approach aims to help programmers write clear, logical code for small and large-scale projects.

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