

## End Goal: Tic-Tac-Toe

- [90 min] Week 1
  - [0.00000...001 min] Introduce ourselves
  - [5 min] Basics
    - Ask around to see if anyone knows any programming languages (e.g. Java)
      - Compare Java with the languages mentioned
    - Java is a programming language and computing platform used to create Web applications and platforms (What Java is)
  - [20 min] How to start coding
    - [10 min] Open up the git-bash and explain the terminal
      - Show cd and cd .. commands
      - Show mkdir
      - Open up atom
      - Create shell commands
      - Atom
    - [10 min] Setting up the file
      - Do the public class etc.
      - Main function and how to print
  - [45 min] Structure
    - [10 min] Types of variables (e.g. int, double, boolean, char, String)
    - [5 min] How to set up variables (must use semicolons)
      - Making variables (e.g. Variable names , replacing values, declaring type)
      - Type name = thing;
      - Type name; name = thing;
    - [5 min] Importance of tabbing correctly
    - [5 min] Importance of commenting
    - [5 min] Changing variables
    - [15 min] Strings
      - Indexing
      - Creating Strings
      - Concatenating Strings
      - Manipulating strings (e.g. length, substring, specific letter)
      - Newline
    - [10 min] Concatenating two different types
      - Adding float/int with string
      - Adding char with int

- [90 min] Week 2
  - [50 min] Primitives
    - [10 min] Logic Operators
    - [10 min] If, else if, else
    - [15 min] While, for
    - [15 min] Arrays
      - Indexing
      - Making array
      - Adding, removing
      - Accessing
      - Finding
  - [20 min] Functions
    - Header
    - Parameters
    - Return/call other functions
  - [20 min] Practice
- [90 min] Week 3
  - [20 min] 2D Array
    - Access (e.g. row, col, element)
    - Making 2D arrays
    - Structure
  - [30 min] User input in java
    - [https://www.w3schools.com/java/java\\_user\\_input.asp](https://www.w3schools.com/java/java_user_input.asp)
  - [40 min] Explain Tic Tac Toe Game (Alternating teaching and coding)
- [90 min] Week 4
  - [90 min] Help kids to finish game