Algorithms and Programming for High Schoolers

Course Plan

Week 1

July 4: What is programming? What is an algorithm? Overview of course. Start overview of Python. Simple types, variables, expressions, basic arithmetic and comparison operators, operator precedence, lists, strings, functions.

July 5: Control flow: `if/else`, `for`, `in`, `while`, `break`, `continue`, `range()`, `len()`.

July 6: Recursion: Fibonacci example.

July 7: Sorting: Bubble-sort, insertion sort, mergesort.

July 8: Asymptotic analysis. Analyze the three sorting algorithms.

Week 2

July 11:

July 12:

July 13:

July 14:

July 15:

Week 3

July 18:

July 19:

July 20:

July 21:

July 22:

Week 4

July 25:

July 26:

July 27:

July 28:

July 29: