NUMBER SYSTEM

- Computational Thinking & Number Theory
  - Binary Number System (Base-2)
  - Octal Number System (Base-8)
  - Decimal Number System (Base-10)
  - Hexadecimal Number System (Base-16)

- Algorithms & Flow Charts

- Variables & Constants

- Operators
  - Arithmetic Operations
  - Assignment Operators
  - Comparison Operators
  - Logical Operators
  - Identity Operators
  - Membership Operators
  - Bitwise Operators

- Conditional Statements
  - Application of if else, if else if ladder
  - Switch-case (default, break).
  - Conditional/ternary operator (? : )

- Iteration Statements
  - Loops (for,while,do while)
  - Nested loops
  - Break and continue

- Problems Using Control Statements & Iteration Statements

- Functions & Modules

- Strings

- Recursion

- Linear Data Structures (Arrays, Linked Lists, Stacks, Queues)
  - Searching
  - Sorting
    . Bubble sort
    . Insertion sort
    . Merge sort
    . Selection sort
    . Quick sort
    . Heap sort
• Trees
  - Binary Tree
  - Tree Traversal
    . Inorder Traversal
    . Preorder Traversal
    . Post Order Traversal
  - Binary Search Tree
    . Insertion
    . Deletion
    . Traversal

• Basic Graph Algorithms
• Dynamic Programming
• Greedy Algorithms