45-Day C Programming Roadmap

Phase 1: Basics of C (Day 1–10)

Day 1 – Getting Started: Install GCC / VS Code, Hello World program, program structure.
Day 2 – Variables & I/O: Data types, constants, printf, scanf.
Day 3 – Operators: Arithmetic, relational, logical, assignment, practice problems.
Day 4 – Conditional Statements: if, else, else-if, practice problems.
Day 5 – Switch: Menu-driven program practice.
Day 6 – Loops: for, while, do-while, factorial, sum, multiplication table.
Day 7 – Nested Loops: Star & pyramid patterns.
Day 8 – Functions Basics: Define & call functions, practice sum of numbers.
Day 9 – Functions Advanced: Return values, recursion (factorial).
Day 10 – Mini Project: Calculator using functions + switch.

Phase 2: Arrays, Strings & Pointers (Day 11–20)

Day 11 – Arrays Basics.
Day 12 – 2D Arrays.
Day 13 – Strings Basics.
Day 14 – String Practice.
Day 15 – Pointers Intro.
Day 16 – Pointers & Arrays.
Day 17 – Pointers & Functions.
Day 18 – Double Pointers + Mini Project.
Day 19 – Structures Basics.
Day 20 – Structures Advanced.

Phase 3: Advanced C Concepts (Day 21–30)

Day 21 – File Handling Basics.
Day 22 – File Reading & Writing.
Day 23 – File Modes.
Day 24 – Dynamic Memory Basics.
Day 25 – Dynamic Memory Advanced.
Day 26 – Storage Classes.
Day 27 – Command-Line Arguments.
Day 28 – Bitwise Operators.
Day 29 – Review.
Day 30 – Mini Project.

Phase 4: Projects & OS Basics (Day 31–40)

Day 31 – Mini Shell Basics.
Day 32 – Mini Shell Advanced.
Day 33 – Networking Intro.
Day 34 – Networking Project.
Day 35 – Networking Project 2.
Day 36 – OS Basics.
Day 37 – System Calls Intro.
Day 38 – System Calls Practice.

Day 39 – OS Review.
Day 40 – Project.

Phase 5: Capstone Projects (Day 41–45)

Day 41 – Game Project.
Day 42 – Game Project Completion.
Day 43 – Security Project.
Day 44 – Final Touch.
Day 45 – Portfolio Day.