

Recommended Practice Programming Problems from Gaddis

Basic C++:

- Chapter 2, Introduction to C++, Programming Challenges:
 - 1 Sum of Two Numbers
 - 2 Sales Prediction
 - 3 Sales Tax
 - 4 Restaurant Bill
 - 5 Average of Values
- Chapter 3, Expressions and I/O, Programming Challenges:
 - 1 Miles per Gallon
 - 2 Stadium Seating
 - 3 Test Average
 - 4 Average Rainfall
 - 5 Male and Female Percentages
 - 6 Ingredient Adjuster
 - 7 Box Office
 - 12 Celsius to Fahrenheit.
- Chapter 4, Making Decisions, Programming Challenges:
 - 1 Minimum/Maximum
 - 2 Roman Numeral Converter
 - 3 Magic Dates
 - 4 Areas of Rectangles
 - 5 Body Mass Index
 - 12 Software Sales, Format the output to two decimal points of precision.
- Chapter 5, Loops and Files, Programming Challenges:
 - 1 Sum of Numbers
 - 3 Ocean Levels
 - 4 Calories Burned
 - 5 Membership Fees Increase
 - 6 Distance Traveled
 - 12 Celsius to Fahrenheit Table
 - 13 The Greatest and Least of These
 - 16 Savings Account Balance

Functions, Arrays & Structs:

- Chapter 6, Functions, Programming Challenges:
 - 1 Markup
 - 3 Winning Division
 - 5 Falling Distance
 - 7 Celsius Temperature Table
 - 11 Lowest Score Drop
- Chapter 7, Arrays, Programming Challenges:
 - 1 Largest/Smallest Array Values
 - 2 Rainfall Statistics
 - 3 Chips and Salsa
 - 4 Larger Than n
 - 10 Drivers License Exam
- Chapter 11, Structs, Programming Challenges:
 - 1 Movie Data
 - 2 Movie Profit
 - 3 Corporate Sales Data
 - 4 Weather Statistics
 - 6 Soccer Scores

Searching & Sorting:

- Chapter 8, Searching and Sorting Arrays, Programming Challenges:
 - 2 Lottery Winners
 - 3 Lottery Winners Modification
 - 8 Search Benchmarks
 - 9 Sorting Benchmarks
 - 10 Sorting Orders

Pointers:

- Chapter 9, Pointers, Programming Challenges:
 - 1 Array Allocator
 - 2 Test Scores #1
 - 3 Drop Lowest Score.
 - 5 Pointer Rewrite
 - 8 Mode Function
 - 10 Reverse Array
 - 11 Array Expander

Classes:

- Chapter 13, Introduction to Classes, Programming challenges:
 - 1 Date
 - 2 Employee Class
 - 3 Car Class
 - 4 Personal Information Class
 - 7 TestScores Class
 - 8 Circle Class
 - 10 Number Array Class
 - add a **copy constructor** that allocates a NEW array and copies the values from the copy constructor's argument.
 - 11 Payroll

Linked Lists:

- Chapter 18, Linked Lists, Programming Challenges:
 - 1 Your own linked list (or use NumberList for this)
 - 2 List Print (or use NumberList)
 - 3 List Copy Constructor
 - 5 List Search
 - 6 Member Insertion by Position
 - 7 Member Removal by Position
 - 15 pop and push member functions

Stacks & Queues:

- Chapter 19, Stacks and Queues, Programming Challenges:
 - 6 Dynamic String Stack
 - 9 File Reverser
 - 12 Inventory Bin Stack
 - 14 Balanced Parentheses ()