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Duplicating High-Level Conditional BranchesOptimizing Branch Instructions; Summary; Chapter 7: Using Numbers; Numeric Data Types; Integers; SIMD Integers; Binary Coded Decimal; Floating-Point Numbers; Conversions; Summary; Chapter 8: Basic Math Functions; Integer Arithmetic; Shift Instructions; Decimal Arithmetic; Logical Operations; Summary; Chapter 9: Advanced Math Functions; The FPU Environment; Basic Floating-Point Math; Advanced Floating-Point Math; Floating-Point Conditional Branches; Saving and Restoring the FPU State; Waiting versus Nonwaiting Instructions
Optimizing Floating-Point CalculationsSummary; Chapter 10: Working with Strings; Moving Strings; Storing and Loading Strings; Comparing Strings; Scanning Strings; Summary; Chapter 11: Using Functions; Defining Functions; Assembly Functions; Passing Data Values in C Style; Using Separate Function Files; Using Command-Line Parameters; Summary; Chapter 12: Using Linux System Calls; The Linux Kernel; System Calls; Using System Calls; Advanced System Call Return Values; Tracing System Calls; System Calls versus C Libraries; Summary; Chapter 13: Using Inline Assembly; What Is Inline Assembly?
Basic Inline Assembly CodeExtended ASM; Using Inline Assembly Code; Summary; Chapter 14: Calling Assembly Libraries; Creating Assembly Functions; Compiling the C and Assembly Programs; Using Assembly Functions in C Programs; Using Assembly Functions in C++ Programs; Creating Static Libraries; Using Shared Libraries; Debugging Assembly Functions; Summary; Chapter 15: Optimizing Routines; Optimized Compiler Code; Creating Optimized Code; Optimization Tricks; Summary; Chapter 16: Using Files; The File-Handling Sequence; Opening and Closing Files; Writing to Files; Reading Files
Reading, Processing, and Writing Data

Sommario/riassunto

Unlike high-level languages such as Java and C++, assembly language is much closer to the machine code that actually runs computers; it's used to create programs or modules that are very fast and efficient, as well as in hacking exploits and reverse engineeringCovering assembly language in the Pentium microprocessor environment, this code-intensive guide shows programmers how to create stand-alone assembly language programs as well as how to incorporate assembly language libraries or routines into existing high-level applicationsDemonstrates how to manipulate data, incorporate