

# Large Scale C Software Design

Object-Oriented Software Design in C++ Design Patterns in Modern C++ Software Architecture with C++ Using C in Software Design C And  
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well designed applications run more efficiently have fewer bugs and are easier to revise and maintain learn the fundamentals of object oriented design by investigating good and bad code using an engaging before and after approach object oriented software design in c shows you exactly what bad software looks like and how to fix it with good design principles and patterns in it you ll find design code test iterations that improve code with each revision gathering requirements to make sure you re developing the right application design principles like encapsulation and delegation that solve programming problems design patterns including observer design pattern that fix architecture issues using recursion and multithreading to simplify common solutions

apply modern c 17 to the implementations of classic design patterns as well as covering traditional design patterns this book fleshes out new patterns

and approaches that will be useful to c developers the author presents concepts as a fun investigation of how problems can be solved in different ways along the way using varying degrees of technical sophistication and explaining different sorts of trade offs design patterns in modern c also provides a technology demo for modern c showcasing how some of its latest features e g coroutines make difficult problems a lot easier to solve the examples in this book are all suitable for putting into production with only a few simplifications made in order to aid readability what you will learn apply design patterns to modern c programming use creational patterns of builder factories prototype and singleton implement structural patterns such as adapter bridge decorator facade and more work with the behavioral patterns such as chain of responsibility command iterator mediator and more apply functional design patterns such as monad and more who this book is for those with at least some prior programming experience especially in c

apply business requirements to it infrastructure and deliver a high quality product by understanding architectures such as microservices devops and cloud native using modern c standards and features key featuresdesign scalable large scale applications with the c programming languagearchitect software solutions in a cloud based environment with continuous integration and continuous delivery ci cd achieve architectural goals by leveraging design patterns language features and useful toolsbook description software architecture refers to the high level design of complex applications it is evolving just like the languages we use but there are architectural concepts and patterns that you can learn to write high performance apps in a high level language without sacrificing readability and maintainability if you re working with modern c this practical guide will help you put your knowledge to work and design distributed large scale apps you ll start by getting up to speed with architectural concepts including established patterns and rising trends then move on to understanding what software architecture actually is and start exploring its components next you ll discover the design concepts involved in application architecture and the patterns in software development before going on to learn how to build package integrate

and deploy your components in the concluding chapters you ll explore different architectural qualities such as maintainability reusability testability performance scalability and security finally you will get an overview of distributed systems such as service oriented architecture microservices and cloud native and understand how to apply them in application development by the end of this book you ll be able to build distributed services using modern c and associated tools to deliver solutions as per your clients requirements what you will learnunderstand how to apply the principles of software architectureapply design patterns and best practices to meet your architectural goalswrite elegant safe and performant code using the latest c featuresbuild applications that are easy to maintain and deployexplore the different architectural approaches and learn to apply them as per your requirementsimplify development and operations using application containersdiscover various techniques to solve common problems in software design and developmentwho this book is for this software architecture c programming book is for experienced c developers looking to become software architects or develop enterprise grade applications

using c in software design provides a creative approach to learning c by emphasizing software engineering numerous thought provoking problems are included at the end of each chapter the book is divided into two sections the first emphasizes the simpler software engineering aspects of c the second part discusses advanced c topics

in this book the essential features of c and unix are introduced and readers are shown how to write more powerful and more efficient programs the book is divided into four parts basic program syntax and control program design and control of input output data structure design and management and advanced features of c and unix programs flow of control functions input output program design arrays strings structures dynamic memory

management data structure design specialized tools advanced programming topics advanced design methods

in a technology driven world basic knowledge and awareness about computers is a must if we wish to lead a successful personal and professional life today computer awareness is considered as an important dimension in most of the competitive examinations like ssc bank po clerk it officer upsc other state level pscs etc objective questions covering computer awareness are asked in a number of competitive exams so the present book which will act as an objective question bank for computer awareness has been prepared keeping in mind the importance of the subject this book has been divided into 22 chapters covering all the sections of computer awareness like introduction to computer computer organisation input output devices memory software ms office database internet networking computer security digital electronics etc the chapters in the book contain more than 75 tables which will help in better summarization of the important information with a collection of more than 3500 objective questions the content covered in the book simplifies the complexities of some of the topics so that the non computer students feel no difficulty while studying various concepts covered under computer awareness section this book contains the most streamlined collection of objective questions including questions asked in competitive examinations upto 2014 as the book thoroughly covers the computer awareness section asked in a number of competitive examinations it for sure will work as a preparation booster for various competitive examinations like upsc state level pscs examinations ssc bank po clerk it officer and other general competitive recruitment examinations

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questions practice problems and 10 mock tests covers past 15 years questions exhaustive exercise containing 100 150 questions in each chapter in all contains around 5250 mcqs solutions provided for each question in detail the book provides 10 practice sets 6 in book 4 online tests designed exactly on the latest pattern of gate exam

martin l barrett and clifford wagner combine the efficiency of c with the productivity of unix and give you the foundation to build stronger programming skills this clear concise book is written for experienced programmers as well as those with a background in mathematics engineering and science five principles guide you through a complete course in programming emphasis on software design via program and data structure design the design of tables data encapsulation and the use of abstract data types solidifies all aspects of the design process the development of c and unix simultaneously yet independently of one another allows you to develop skills in both languages or focus on them individually chapter summaries review problems and numerous practical programming problems enable you to tie several different concepts together in a coherent scheme extensive examples covering scientific problems applied mathematics and floating point arithmetic broaden the spectrum of computer scie

the thoroughly revised updated new 7th edition of professional knowledge for ibps sbi specialist it officer exam is updated as per the new pattern and with latest solved paper ans 15 practice sets the book contains 12 chapters and each chapter provides theory as per the syllabi of the recruitment examination the new edition also contains 15 practice sets designed exactly as per the latest pattern to boost the confidence of the students the chapters in the book provides exercises to help aspirants practice the concepts discussed in the chapters each chapter in the book contains ample number of questions designed on the lines of questions asked in previous years specialist it officer exams the book covers 2500 useful questions for professional

knowledge

the thoroughly revised updated new 6th edition of professional knowledge for ibps sbi specialist it officer exam 6th edition is updated as per the new pattern and with latest solved paper new questions in each test 5 new practice sets the book contains 12 chapters and each chapter provides theory as per the syllabi of the recruitment examination the chapters in the book provides exercises to help aspirants practice the concepts discussed in the chapters each chapter in the book contains ample number of questions designed on the lines of questions asked in previous years specialist it officer exams the book covers 2500 useful questions for professional knowledge the new edition also contains 15 practice sets designed exactly as per the latest pattern to boost the confidence of the students

the book complete guide for rajasthan computer instructor basic senior paper 1 2 is a comprehensive guide for computer instructor covering the complete syllabus the salient features of the book are the book has been designed after thorough research of the past pattern and syllabus of the exam the book also provides latest content on rajasthan gk pedagogy information technology comprehensive sections on i rajasthan gk ii general ability iii pedagogy iv major development in the field of it v computer information technology detailed theory along with solved examples exhaustive question bank at the end of each chapter in the form of exercise updated as per the latest pattern detailed solutions to the exercise have been provided at the end of each chapter the book provides thoroughly updated rajasthan gk it section with developments and advancements till date

this book is a comprehensive guide to understanding and implementing design patterns and solid principles in c the book is designed for both novice and experienced programmers who want to improve their understanding of software design and development in c design patterns are reusable solutions

to common problems that arise in the design of object oriented systems they provide a way to structure and organize code making it more flexible maintainable and extensible this book covers the most commonly used design patterns in c such as the singleton factory observer and decorator patterns each pattern is explained in detail with real world examples and c code snippets that demonstrate how to implement the pattern in an actual c application in addition to design patterns the book also covers solid principles which are a set of guidelines for writing maintainable and extensible code the solid principles are widely considered to be best practices in object oriented software development and this book explains how they can be applied in a c context

covers four main areas the re use of software tools and practices that software developers must use gui library utilization and event driven systems java applets are used to enhance the concept of conceptual material through animation and interaction

a recent survey stated that 52 of embedded projects are late by 4 5 months this book can help get those projects in on time with design patterns the author carefully takes into account the special concerns found in designing and developing embedded applications specifically concurrency communication speed and memory usage patterns are given in uml unified modeling language with examples including ansi c for direct and practical application to c code a basic c knowledge is a prerequisite for the book while uml notation and terminology is included general c programming books do not include discussion of the constraints found within embedded system design the practical examples give the reader an understanding of the use of uml and oo object oriented designs in a resource limited environment also included are two chapters on state machines the beauty of this book is that it can help you today design patterns within these pages are immediately applicable to your project addresses embedded system design concerns such as



concurrency communication and memory usage examples contain ansi c for ease of use with c programming code

a comprehensive guide with extensive coverage on concepts such as oop functional programming generic programming and stl along with the latest features of c key features delve into the core patterns and components of c in order to master application design learn tricks techniques and best practices to solve common design and architectural challenges understand the limitation imposed by c and how to solve them using design patterns book description c is a general purpose programming language designed with the goals of efficiency performance and flexibility in mind design patterns are commonly accepted solutions to well recognized design problems in essence they are a library of reusable components only for software architecture and not for a concrete implementation the focus of this book is on the design patterns that naturally lend themselves to the needs of a c programmer and on the patterns that uniquely benefit from the features of c in particular the generic programming armed with the knowledge of these patterns you will spend less time searching for a solution to a common problem and be familiar with the solutions developed from experience as well as their advantages and drawbacks the other use of design patterns is as a concise and an efficient way to communicate a pattern is a familiar and instantly recognizable solution to specific problem through its use sometimes with a single line of code we can convey a considerable amount of information the code conveys this is the problem we are facing these are additional considerations that are most important in our case hence the following well known solution was chosen by the end of this book you will have gained a comprehensive understanding of design patterns to create robust reusable and maintainable code what you will learn recognize the most common design patterns used in c understand how to use c generic programming to solve common design problems explore the most powerful c idioms their strengths and drawbacks rediscover how to use popular c idioms with generic programming understand the impact of design patterns on the program s performance who this book is for this book is for

experienced c developers and programmers who wish to learn about software design patterns and principles and apply them to create robust reusable and easily maintainable apps

master c the right way from the software engineering perspective master c the right way object oriented approach to coding throughout harness c s strengths avoid its dangers build more easily maintainable code build more powerful robust maintainable c software for developers with experience in any language victor shern s core c teaches c the right way by applying the best software engineering practices and methodologies to programming in c even if you ve already worked with c this comprehensive book will show you how to build code that is more robust far easier to maintain and modify and far more valuable shern s book teaches object oriented principles before teaching the language helping you derive all the power of object oriented development to build superior software learn how to make design decisions based on key criteria such as information hiding and pushing responsibilities from clients down to server classes then master every key feature of ansi iso c from a software engineer s perspective classes methods const modifiers dynamic memory management class composition inheritance polymorphism i o and much more if you want to build outstanding c software coding skill isn t enough objects aren t enough you must design think and program using today s best software engineering practices and with core c you will so core c delivers the application of software engineering principles to c programming a strong emphasis on writing code for easier future maintainance and modification a practical understanding of object oriented principles before teaching the language insight into the latest ansi iso c features thorough explanations that respect your intelligence hundreds of realistic to the point code examples levity breaks stories and vignettes that illustrate key topics concepts and ideas through humor every core series book demonstrates practical techniques used by professional developers features robust thoroughly tested sample code and realistic examples focuses on the cutting edge technologies you need to master today provides expert

advice that will help you build superior software

as a combination tutorial and reference the concise text provides a clear focus on graphics programming for microsoft c and quickc compilers includes a complete reference section and hundreds of programming examples plus compatibility information is provided for the turbo c graphics functions

focus on the c programming language a powerful and popular tool for developing professional software enables students to easily advance in their careers microsoft visual c included with the text allows students to build their c programs using this valuable accompanying cd rom hands on demonstrations incorporated in almost all chapters include a stated objective an experiment its results and an analysis of the activity its results and what those results teach enables students to gain valuable hands on experience crucial to understanding the c program review questions and 25 exercises included in each chapter teaches students how to write programs that solve problems in math physics electronics etc tips warnings traps and technical notes copiously contained in each chapter gives students important information that is necessary to develop their skills chapter glossaries provide students with an easy to find reference tool for each chapter instructors supplements include an instructors manual and powerpoints provides instructors with valuable support in forming their course curriculum

apply the latest editions of the c standard to the implementation of design patterns as well as covering traditional design patterns this book fleshes out new design patterns and approaches that will be useful to modern c developers author dmitri nesteruk presents concepts as a fun investigation of how problems can be solved in different ways along the way using varying degrees of technical sophistication and explaining different sorts of trade offs design patterns in modern c 20 second edition also provides a technology demo for modern c showcasing how some of its latest features e g coroutines

modules and more make difficult problems a lot easier to solve the examples in this book are all suitable for putting into production with only a few simplifications made in order to aid readability what you will learn use creational patterns such as builder factories prototype and singleton implement structural patterns such as adapter bridge decorator facade and more work with the behavioral patterns such as chain of responsibility command iterator mediator and more apply functional design patterns such as the maybe monad who this book is for this book is for both beginner and experienced c developers

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