Introduction To Pascal And Structured Design

Introduction to Pascal and Structured DesignIntroduction to Pascal and Structured DesignJones & Bartlett Learning
Introduction to programming; The general structure of pascal programs; Declaring and operating on simple variables; Introduction to input and output; Structuring program actions; Structured data type; Dynamically allocated data structures.

Emphasizing the basic concepts of programming and the development of problem-solving skills, this highly-effective introduction to computer science employs Pascal for implementation programs. Gonzalez and Robbins provide details on the design of algorithms before giving the problem solutions. Chapters on problem-solving and chapters on Pascal syntax are interwoven; this format allows instructors to teach current techniques in problem solving, software engineering, and programming along with the introduction of Pascal syntax. Structured pseudo-code is used consistently in problem-solving to encourage algorithm design as a prelude to program implementation. The text offers a large variety of exercises and problems with a wide range of difficulty.

Written with the aim of raising the standard of programming, Structured Program Design with Pascal provides an introduction to Jackson Structured Programming and the top down stepwise refinement techniques which are essential for efficient programming. While the book uses Pascal for its examples it is primarily a book about design and will be of interest to all readers irrespective of the programming language they wish to use. Enough of the language is introduced to allow inexperienced programmers and people unfamiliar with Pascal to follow the text and examples. The book contains numerous practical techniques and examples of real-life programs. Eaxmples at the end of chapters develop the points in the text and integrate the different approaches used and readers are encouraged to attempt them and study the solutions. Structured Program Design with Pascal is appropriate for undergraduate and other students on courses in computing, engineering and science subjects where they are learning to program. Students at lower levels will find much of the text relevant and easily accessible.

This introduction to Pascal programming language contains examples and sample programmes to demonstrate correct methodology and basic programming concepts. Topics covered include: basic Pascal; structured programming and modular design; control structures; procedures and functions; ordinary data types; strings; multidimensional arrays; data structures; and algorithms.

A preliminary version o~ the programming language Pascal was dra~ted in 1968. It ~ollowed in its spirit the A1gol-6m and Algo1-W 1ine o~ 1anguages. A~ter an extensive deve10pment phase, a~irst compiler became operational in 197m, and pub1ication ~ollowed a year 1ater (see Re~erences 1 and 8, p.1m4). The growing interest in the deve10pment of compilers ~or other computers ca11ed ~or a conso1idation o~ Pascal, and two years of experience in the use o~ the 1anguage dictated a few revisions. This 1ed in 1973 to the pub1ication o~ a Revised Report and a de~inition o~ a 1anguage representation in terms of the ISO cha:.:.acter set. This booklet consists o~ two parts: The User Manual, and the Revised Report. The ManUAl is directed to those who have previous1y acquired some ~ami1iarity with computer programming, and who wish to get acquainted with the 1anguage Pascal. Hence, the style o~ the Manual is that o~ a tutorial, and many examp1e~ are inc1uded to demonstrate the various ~eatures o~ Pascal. Summarising tab1es and syntax speci~ications are added as Appendices. The Report is inc1uded in this booklet to serve as a concise, u1timate reference ~or both programmers and imp1ementors. It defines stAndArd Pascal which constitutes a common base between various implementations of the 1anguage.

Introduction to Pascal and Structured Design, provides a concise, accessible introduction to computer science. Using Pascal programming as a tool to shape students' understanding of the discipline, the text offers a strong focus on good programming habits and techniques. The smooth integration of programming essentials, software engineering principles and contemporary theory creates an effective blend for students' first courses in computer science. An emphasis on conceptual understanding, problem solving, and algorithmic design teaches the skills needed for effective program implementation. A wide array of in-text learning aids, including Problem-Solving Case Studies, ample exercises and problems, and nine useful appendices, completes the text. Click here for downloadable student files

This introduction to structured programming using Turbo Pascal version 5 on the IBM-PC looks at structured programming, the programming sequence, top-down analysis and hierarchy, modular programs, flowcharts and pseudocode, control structures, structured code and how to build a module.

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