

PROGRAMMING AND DATA STRUCTURES – I

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Thirumigu. M.G. BHARATHKUMAR
Founder & Chairman, Mahendra Educational Trust

Forward

"Computing in their capacity as a tool, computers will be but a ripple on the surface of our culture. In their capacity as intellectual challenge, they are without precedent in the cultural history of mankind".

-Edsger Dijkstra, 1972 Turing Award Lecture

Computer Science as an academic discipline has evolved to embrace a set of intellectual challenges on a par with other sciences. This fact, combined with the undeniable impact of computer science on the modern world, demands an introductory college text book comparable with commonly-used textbooks in physics, chemistry, or biology. Accordingly, this book is intended to meet the need for an introductory college text in computer science. The distinctive feature of the book is that it has broader coverage of the field than is found in many texts that are currently in use.

I am delighted to note that the HOD of Computer Science and Engineering of Mahendra College of Engineering, Dr. H Lilly Beulah along with her faculty members Mrs. A Vijayalakshmi And Mr. M Karthikeyan have written this book on "PROGRAMMING AND DATA STRUCTURES-I" nicely, for the benefit of student community. They have accomplished this goal, and I trust their work will encourage and enlighten all who have an interest in computers, computer science and the growing role on information and computer technology in the modern world.

M.G. BHARATHKUMAR

Founder & Chairman, Mahendra Educational Trust

**Dedicated
To
Our Family, Friends &
Students**

P R E F A C E

The importance of “**PROGRAMMING AND DATA STRUCTURES-I**” is well known in various Engineering fields. This book covers C Programming and Linear Data Structures.

Computer programming is becoming a necessary skill for many professions. Writing computer programs is essential to solve complex science and Engineering problems. C language is one of the most popular languages today because it is a structured, high level, machine independent language.


Data structure is a particular way of storing and organizing information in a computer so that it can be retrieved and used most productively.

Algorithms and data structures are the basic tools of a programmer. You should understand what they are, why & how they work, & what their shortcomings are. Knowing this will save you a huge amount of time that could be wasted trying to solve a problem that has a solution.

Use of appropriate data structure enables a computer system to perform its task more efficiently, by influencing the ability of computer to store and retrieve data from any location in its memory.

We have divided this book into five chapters, where the first two chapters explains the features of C programming and the remaining three chapters explains the linear data structures with simple algorithms.

The main aim of this book is to make the students to understand the concepts easily. This book makes the understanding of subject in a clear way and makes it more interesting.

 Mrs. A. Vijayalakshmi

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 Mrs. A. Vijayalakshmi

 Dr. H. Lilly Beaulah

 Mr. M. Karthikeyan

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