

Handbook of COMPUTER FUNDAMENTALS

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DEDICATION

This book is dedicated to all
My Family Members,
My Relatives,
My Friends,
My Students,
&
All Beloved Readers.

The machine develops - but not on our lines. The machine proceeds - but not to our goal. We only exist as the corpuscles that course through its arteries, and if it could work without us, it would let us die.

—**E.M. Forster, *The Machine Stops***

Since the computer is so fast, it needs a fast boss.

—**Donald Sanders, *In Computers Today***

It is the capability of the computer for solving problems and making decisions that represents its real novelty and that poses the greatest difficulties in predicting its impact upon society.

—**Herbert A. Simon (Nobel Laureate)**

A ship in port is safe, but that is not what ships are for. Sail out to sea and do new things.

—**Admiral Grace Hopper, *Computer Pioneer***

Preface

If you are curious about computers, if you want to know how they work and what they can do for you, and if we wonder what a computerized world of the future would be like, this book will help you - whatever your education and background.

Today there is an ever-increasing awareness and curiosity about computers among people in all walks of life. In today's information age, knowledge of computer is a must. We feel mildly threatened by this new technology that is spreading fast, and have an inner urge to learn something about this new technology. Parents want their children to choose computer science as a subject in schools, youngsters enroll in large numbers in numerous computer professional classes and adults look for appreciation courses and books on computers.

While books on computer fundamentals are plenty in number, there are not many which give broad introduction to the computer covering its development, operation, applications and implications. This book is meant to fill this gap and is aimed at professionals, students and laymen who want to understand computers and network technology. While the presentation is kept simple, the coverage is wide - from the origins of computers to the prospects of future. Besides, the book well emphasizes on communication and computer networks. Moreover, Internet and Intranet have also been discussed up to a desirable depth.

Whether you are pursuing a career as an actuary, a social worker, an attorney, an accountant, a computer specialist, a sales manager, or virtually any other job, this book will prove to be beneficial. For most of you, this knowledge will be a fundamental prerequisite to performing your job.

This book is intended to serve for a variety of intermediate and advanced courses in computer science, computer application and computer engineering programmes including B.E./B.Tech., B.A/B.Com/B.Sc. (Pass Course), B.Sc.(Computer Science), B.Sc.(IT), BCA, BCAII, MCA, MCAII, M.Sc.(Computer Science), M.Sc.(IT), M.Tech.(CSE/IT), MBA, LLB and so on.

When readers enjoy what they read, they remember it. The text's friendly style encourages students to read and increase their comprehension.

I would like to point out in advance that this book has been written based on the work done by many people who have provided information directly or indirectly through their books, publications or lectures. However, references have been provided at the end of the book, from where the author has drawn material for use.

I would appreciate it if you, the reader would notify me of any errors or omissions in the book. Also if you would like to suggest improvements or to contribute exercises, I would be glad to hear from you. I will do my utmost to ensure that they are corrected and serve your purpose most appropriately.

Key Features of the Book:

- The complete spectrum of computer fundamentals starting from historical evolution of computers to its successful usage among common men.
- Another important dimension of the book includes its opening from general concept of data communication to the extent of Internet & Intranet usage.

- The book also attempts to highlight the societal impacts of the computer technology.
- The language used in the book is lucid, is easy to understand, and facilitates easy grasping of concepts.
- The chapters have been logically arranged in sequence.
- The book is written in a reader-friendly manner both for the students and the teachers.
- Most of the contents presented in the book are in the form of bullets, organized sequentially. This form of presentation, rather than in a paragraph form, facilitates the reader to view, understand and remember the points better.
- The explanation is supported by diagrams, pictures and images wherever required.
- Adequate exercises have been given at the end of the every chapter.

Readership

This book attempts to serve for a variety of intermediate and advanced courses in computer science, computer applications and computer engineering programmes including B.E./B.Tech., B.A/B.Com/B.Sc. (Pass Course), B.Sc.(Computer Science), B.Sc.(IT), BCA, BCAII, MCA, MCAII, M.Sc.(Computer Science), M.Sc.(IT), M.Tech.(CSE/IT), MBA, LLB and so on.

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(Nasib Singh Gill)

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