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Problem Solving & Object Oriented Programming

A Conceptual Approach

Seema Kedar

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Problem Solving and Object Oriented Programming

PROBLEM SOLVING AND OBJECT ORIENTED PROGRAMMING

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PREFACE

The importance of **Problem Solving and Object Oriented Programming** is well known in various engineering fields. Overwhelming response to my books on various subjects inspired me to write this book. The book is structured to cover the key aspects of the subject **Problem Solving and Object Oriented Programming .**

The book uses plain, lucid language to explain fundamentals of this subject. The book provides logical method of explaining various complicated concepts and stepwise methods to explain the important topics. Each chapter is well supported with necessary illustrations, practical examples and solved problems. All the chapters in the book are arranged in a proper sequence that permits each topic to build upon earlier studies. All care has been taken to make students comfortable in understanding the basic concepts of the subject.

The book not only covers the entire scope of the subject but explains the philosophy of the subject. This makes the understanding of this subject more clear and makes it more interesting. The book will be very useful not only to the students but also to the subject teachers. The students have to omit nothing and possibly have to cover nothing more.

I wish to express my profound thanks to all those who helped in making this book a reality. Much needed moral support and encouragement is provided on numerous occasions by my whole family. I wish to thank the **Publisher** and the entire team of **Technical Publications** who have taken immense pain to get this book in time with quality printing.

Any suggestion for the improvement of the book will be acknowledged and well appreciated.

Author
Seema Kedar

Dedicated to God.

Table of Contents

Unit I

Problem Solving Concepts

Syllabus

General problem solving concepts - Types of problems, Problems solving with computers, Difficulties with problem solving, Problem solving aspects, Problem solving concepts for computer- Constants and variables, Data types, Functions, Operators, Expressions and equations, Programming concepts - Communicating with computers, Organizing the problem, Using the tools, Testing the solution, Coding the program, Top down design

Contents

1.1 General Problem Solving Concepts

Dec.-09,10, May-10,11

People make decisions everyday to solve problems that affect their lives. If a bad decision is made, time and resources are wasted, so it is important that people should know how to make right decision.

There are six steps to follow to ensure the best decision. These are given below :

Dec.-09, Marks 6; May-10, Marks 8; May-11, Marks 8

1) Identify the problem

You identify the problem before you start solving it. If you don't know what the problem is, you cannot solve it.

2) Understand the problem

You must understand what is involved in the problem before you can continue toward the solution. You cannot solve a problem if you do not know the subject. For example, to solve a problem involving accounting you must know accounting. Thus before start of solution, you understand knowledgebase of the person or machine for whom you are solving the problem.

3) Identify alternative ways to solve the problem

Find out different alternatives for solving problem. Alternative solutions must be acceptable ones.

4) Select the best way to solve the problem from the list of alternative solutions

In this step, you identify and evaluate the pros and cons of each possible solution before selecting the best one. For doing this, you should have selection criteria for the evaluation, which will serve as the guideline for evaluating each solution.

5) List instructions that enable you to solve the problem using the selected solution

List step-by-step instructions from knowledgebase for solving the problem using the selected solution. No instruction can be used unless the individual or the machine can understand it.

6) Evaluate the solution

Evaluation of solution means to check its result to see if it is correct, and to see if it satisfies the needs of the person with the problem. If the result is unsatisfactory, restart the process. If any of these six steps are not completed well, the results may be less than desired.

- **Example**

Take the problem of 'what to do this evening'.

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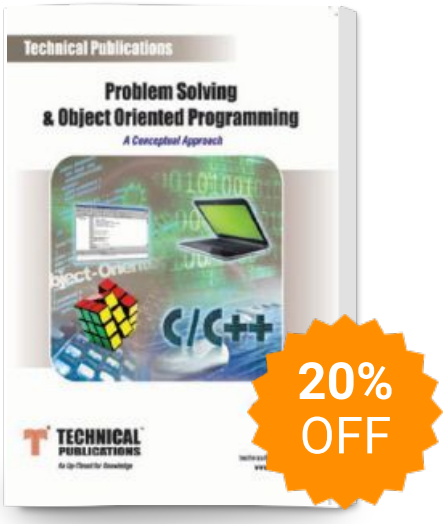

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