

# Data Structures and Algorithms<sup>1</sup>

A Study Guide for Students of Sorsogon State  
University - Bulan Campus<sup>2</sup>

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<sup>1</sup>A course in the Bachelor of Science in Computer Science

<sup>2</sup>This book is a study guide for students of Sorsogon State University - Bulan Campus taking up the course Data Structures and Algorithms.

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# Preface

*“Bad programmers worry about the code. Good programmers worry about data structures and their relationships.”*

– Linus Torvalds

Jarrian Vince G. Gojar

<https://github.com/godkingjay>



# 1

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### 8.2.18 Y-Tree

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## 9

# Applications of Data Structures and Algorithms

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9.1.2 Database Management Systems

9.1.3 Compiler Design

9.1.4 Networking

9.1.5 Artificial Intelligence

9.1.6 Machine Learning

9.1.7 Computer Graphics

9.1.8 Computer Vision

9.1.9 Robotics

9.1.10 Web Development

9.1.11 Mobile Development

9.1.12 Game Development

9.1.13 Cybersecurity

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## 9.2 Applications in Real Life

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9.2.2 E-commerce

9.2.3 Healthcare

9.2.4 Finance

9.2.5 Transportation

9.2.6 Education

9.2.7 Agriculture

9.2.8 Manufacturing

9.2.9 Entertainment

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