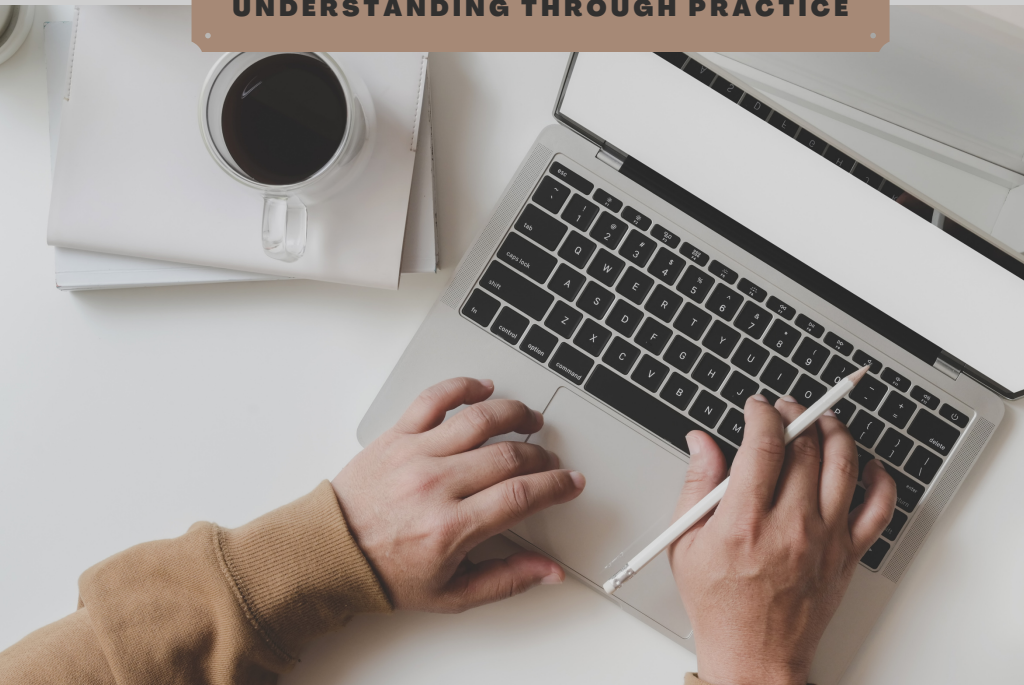


PYTHON PROGRAMMING FUNDAMENTALS FOR DATA SCIENCE

UNDERSTANDING THROUGH PRACTICE



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With deep gratitude, this book is dedicated to the Almighty God, whose divine guidance, along with the unwavering support of my family and friends, has brought this creation to life.

Preface

This book, titled "Python Programming Fundamentals for Data Science" aims to explore the potential of your gateway to mastering the essential skills that underpin the exciting realm of data analysis, machine learning, and beyond. Whether you're a curious novice or an experienced coder looking to pivot into the field of data science, this book is designed to provide you with a solid foundation to thrive in this dynamic landscape.

The primary objective of this book is to provide you with a comprehensive and accessible guide to mastering Python programming in the context of data science. In an era dominated by data, the ability to extract insights, drive informed decisions, and predict future trends has become paramount. This book is designed to be your companion as you embark on a journey to demystify Python programming and its integral role in the realm of data science.

This book explores with the fundamental elements of Python programming – variables, data types, loops, and functions. With these skills in your arsenal, we'll venture into the world of data manipulation, where you'll learn to transform raw data into meaningful insights. It is our hope that this book will serve as a valuable resource for educators, researchers, and professionals interested in leveraging the power of Python Programming Fundamentals for Data Science.

We would like to express our sincere gratitude to all the contributors who have shared their expertise and insights in this book. Their dedication and passion for advancing educational technology have been instrumental in creating this comprehensive resource.

Dr.R.MEKALA
SHIVANANDA S
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The book "Python Programming Fundamentals for Data Science" discover Python comprehensively, from syntax basics to advanced techniques. Learn variables, control structures, and loops. Explore text manipulation and delve into Object-Oriented Programming, mastering classes and inheritance. Uncover operator overloading and JSON's data prowess. Handle CSV, PDFs, and bridge JSON to Python objects. Equipped with this knowledge, confidently tackle coding challenges, innovate, and thrive in the evolving programming landscape. This book serves as a practical guide that empowers readers to apply Python concepts immediately, gain valuable coding experience, and build a solid foundation for tackling diverse programming tasks.



Dr R Mekala received her B.E. Degree in Computer Science and Engineering from Kumaraguru College of Technology, Coimbatore, M.E. Degree in Computer Science and Engineering from Anna University, Coimbatore, and Doctorate from Anna University, Chennai in the field of Satellite Image Compression. She has 20 years of teaching and research experience. Her research area includes Cloud Computing, Machine learning, Artificial Intelligence and Network Security. She has published 25 papers in National and International Journals. Chaired more than 15 conferences, presented lectures in various reputed institutions all over India. Presently she is working as an **Associate Professor** in **M.Kumarasamy College of Engineering, Karur, TamilNadu**.



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