

Just Start

PYTHON

Dr. Salomi Samsudeen

Assistant Professor, Dept. of Computational Intelligence
SRM Institute of Science & Technology (SRMIST)
Chennai, TN, INDIA

Mrs. Kiruthika J.K.

Assistant Professor, Dept. of CSE
KPR Institute Engineering & Technology
Coimbatore, TN, INDIA

Dr. R. Athillakshmi

Assistant Professor, Dept. of Computational Intelligence
SRM Institute of Science & Technology (SRMIST)
Chennai, TN, INDIA

Dr. N. Meenakshi

Assistant Professor, Dept. of Computational Intelligence
SRM Institute of Science & Technology (SRMIST)
Chennai, TN, INDIA

Dr. Devipriya A.

Assistant Professor, Dept. of CSE
SRM Institute of Science & Technology (SRMIST)
Chennai, TN, INDIA

JUST START PYTHON

Copyright© : Dr. Salomi Samsudeen
Publishing Rights© : VSRD Academic Publishing
A Division of Visual Soft India Pvt. Ltd.

ISBN-13: 978-93-91462-46-8

FIRST EDITION, NOVEMBER 2022, INDIA

Printed &Published by:

VSRD Academic Publishing

(A Division of Visual Soft India Pvt. Ltd.)

Disclaimer: The author(s) / Editor(s) are solely responsible for the contents compiled in this book. The publishers or its staff do not take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the Author(s) or Editor(s) or Publishers to avoid discrepancies in future.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the Publishers & Author.

Printed &Bound in India

VSRD ACADEMIC PUBLISHING

A Division of Visual Soft India Pvt. Ltd.

REGISTERED OFFICE

154, Tezab mill Campus, Anwarganj, KANPUR–208003 (UP) (IN)
Mb:9899936803, Web: www.vsrdpublishing.com, Email: vsrdpublishing@gmail.com

MARKETING OFFICE

340, FF, Adarsh Nagar, Oshiwara, Andheri(W), MUMBAI–400053 (MH) (IN)
Mb:9956127040, Web: www.vsrdpublishing.com, Email: vsrdpublishing@gmail.com

PREFACE

Python is a computer programming language developed for programmer efficiency, code readability, and software quality. This book provides a comprehensive introduction to the Python programming language. Its goal is to help pupils understand Python concepts before using them at work. This book is designed to introduce the Python language to undergraduate and graduate students in ways that more limited techniques cannot. You should be knowledgeable enough with Python after reading this book to utilise it in whichever application areas you want to study. Because of its emphasis on foundations, this book is able to teach Python language essentials in greater depth than many programmers encounter while learning the language for the first time. It employs a bottom-up.

This book is structured into five chapters, each of which introduces new useful concepts, illustrates them with real-world situations, and finishes with review questions. This book's chapters are all organised in such a manner that each topic builds on prior studies. This book is for anyone, regardless of programming expertise, who wants to learn what looks to be the world's most popular computing language. This prologue discusses the book's aim, scope, and organisation in further detail. It is optional reading; however, it is meant to provide context before delving into the main body of the book. We invite comments and suggestions from readers, staff members, and students for future enhancements to this work.

 *Authors*

ACKNOWLEDGEMENT

In this Occasion, we thank Almighty, Family & Friends for being with us throughout the process of penning this book. Last but not least, our students are real striving force for this book to seed and breed in future with more technical books.

 *Authors*

CONTENTS

CHAPTER 1: ALGORITHMIC PROBLEM SOLVING 1

- 1.1. INTRODUCTION TO PROBLEM SOLVING 1
- 1.2. ALGORITHM 2
- 1.3. BUILDING BLOCKS OF ALGORITHM..... 3
- 1.4. FLOWCHART 6
- 1.5. PSEUDOCODE 8
- 1.6. ALGORITHMIC PROBLEM SOLVING 10

CHAPTER 2: DATA, EXPRESSIONS AND STATEMENTS 24

- 2.1. PYTHON INTERPRETER AND INTERACTIVE MODE 24
- 2.2. STANDARD DATA TYPES 26
- 2.3. DATA TYPE CONVERSION 33
- 2.4. VARIABLES 33
- 2.5. EXPRESSIONS 35
- 2.6. STATEMENTS..... 35
- 2.7. OPERATORS..... 36
- 2.8. ILLUSTRATIVE PROGRAMS..... 46

CHAPTER 3: CONTROL FLOW AND FUNCTIONS 48

- 3.1. CONDITIONALS AND RECURSION 48
- 3.2. SELECTION / CONDITIONAL CONTROL STATEMENTS 52
- 3.3. FRUITFUL FUNCTIONS 63
- 3.4. STRINGS 68

3.5.	PROGRAMS	73
------	----------------	----

CHAPTER 4: LISTS, TUPLES AND DICTIONARIES 80

4.1.	LISTS.....	80
------	------------	----

4.2.	TUPLES	88
------	--------------	----

4.3.	DICTIONARIES	92
------	--------------------	----

4.4.	ADVANCED LIST PROCESSING	95
------	--------------------------------	----

4.5.	ILLUSTRATIVE PROGRAMS.....	97
------	----------------------------	----

CHAPTER 5: FILES, MODULES AND PACKAGES106

5.1.	FILES.....	106
------	------------	-----

5.2.	FORMAT OPERATOR.....	111
------	----------------------	-----

5.3.	COMMAND LINE ARGUMENTS	112
------	------------------------------	-----

5.4.	ERRORS AND EXCEPTIONS.....	113
------	----------------------------	-----