

Introduction to Programming Python 2.7

ABINASH MOHANTY¹

August 15, 2017

¹<https://www.linkedin.com/in/abinashm89/>

Chapter 1

Introduction

1.1 Getting started

Python is object-oriented programming language with powerful built-in data types. Since Python is an interpreted language, it is most easily reviewed by simply looking at and describing interactive sessions. To start a python interactive session, open command prompt and enter python. In this book we will be using python 2.7 for all examples. It is assumed that you have a linux based system with python 2.7 already installed in it. Lets begin with the all famous "Hello world" program:

```
>>> print 'hello world'
hello world
```

1.1.1 Merge two sorted linked lists

Write a SortedMerge() function that takes two lists, each of which is sorted in increasing order, and merges the two together into one list which is in increasing order. SortedMerge() should return the new list. The new list should be made by splicing together the nodes of the first two lists.

Chapter 2

Data

We stated above that Python supports the object-oriented programming paradigm. This means that Python considers data to be the focal point of the problem-solving process. In Python, as well as in any other object-oriented programming language, we define a class to be a description of what the data look like (the state) and what the data can do (the behavior). Classes are analogous to abstract data types because a user of a class only sees the state and behavior of a data item. Data items are called objects in the object-oriented paradigm. An object is an instance of a class.

2.1 Built-in Data Types

Python has two main built-in data types for integers and floating point numbers. These python classes are called 'int' and 'float'. The standard arithmetic operations, +, -, *, /, and ** (exponentiation), can be used with parentheses forcing the order of operations away from normal operator precedence. Other very useful operations are the remainder (modulo) operator, %, and integer division, //. Note that when two integers are divided, the result is a floating point. The integer division operator returns the integer portion of the quotient by truncating any fractional part.