Learning Python by Examples

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January 17, 2023

About the Notes

The purpose of this document is NOT to teach you python syntax. There are plenty of textbooks that do that. Instead, this book contains a collection of examples to explain how to use certain python features. As such, most examples are relatively short and highlight one feature at a time. When there are multiple ways to do things, which is very common in Python, we will construct examples to let you compare the different solutions. Most of the time, we put them in one program, but there are exceptions.

The examples are not here for you to READ! They are for you to EXECUTE. Only by running the code will you be able to learn the language. That's how I learned programming languages, and I would like the students to follow me. Each example is tested on my IDE and copied here, including the indentation and colors inherited from the IDE. I do plan to run most of the programs during the class.

It took a lot of effort for me to make it easy for you to run the code. Each example can be copy-and-pasted to your favorite IDE. Do not copy the line number and header. The program should work. There may be a few examples containing syntax or logical errors, which were by design. You should test the program and modify it as you wish.

To let you focus on a particular part of the output, we have frequently used a function called `next()` to pause the execution for a while. The "next" function is a simple input statement that prompts you to enter something. You can hit the ENTER key to go on. Of course, we will talk about functions in detail later.

This document will be updated from time to time.

Chapter 0: Introduction to Python (Last Update: January 12, 2023)

The first example is a Helloworld example. It contains some comments (slated and in gray). The only purpose is to print "Hello World!". Try to modify it to print something else.

```
01  01-hello-world.py
 1  # Name:  Stephen Huang
 2  # Program 1
 3
 4  print("Hello World!")   # In-line comment.
```

I don't expect you to understand the second example, at least not yet. The purpose of putting it here is (a) to show you how easy it is to do certain tasks using existing library functions and (b) to give you something nontrivial to modify.

```
01  02-datetime.py
 1  from datetime import datetime
 2  time_now = datetime.now()
 3  print(time_now)
 4  print (time_now.strftime("%m/%d/%Y %H:%M:%S"))
```