Hyperion Development

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Task 3: Data Structures

Python Beginner Course

Task 3: Data structures

3.1 Introduction

Welcome to Task 3 of the Python Beginner Course!

Please feel free to visit www.hyperiondev.com and log in to your Portal using the login details send to you during registration. Here you will have access to the tools and methods that will help you throughout the course, know your tutor, view your current courses & progress, and also check whether your current task has been marked yet.

For any queries regarding the course, need help understanding the task or general comments, please contact us at students@hyperiondev.com.

Overview

In this task you will learn about data structures in programming. A data structure is a specialized format for organizing and storing data so that it may be used efficiently (retrieving or manipulating it). General data structure types include arrays, lists, files, tables, tree and so on. Different data structures are suited to different kinds of applications and some are highly specialized to specific tasks. The most common data structure in python is a list and this is what we will be focusing more on.

3.2 Instructions

First read example.py, open it using Notepad++ (Right click the file and select 'Edit with Notepad++').

- Example.py should help you understand some simple Python. Every task will have example code to help you get started. Make sure you read all of example.py and try your best to understand.
- You may run example.py to see the output. The instructions on how to do this are inside the file. Feel free to write and run your own example code before doing Task 3 to become more comfortable with Python.
- You are not required to read the entirety of Additional Reading.pdf, it is purely for extra reference.

3.3 Compulsory exercise to complete Task 3

Follow these steps:

Once you have read and completely understand **example.py,** write a Python program that takes in a user input as a String. While the String is not “John”, add every string entered to a list until “John” is entered. Then print out the list.

This program basically stores all incorrectly entered strings in a list where “John” is the only correct string. Save this program as **John.py** in this folder.

Example program run (what should show up in the python console when you run it):

Enter your name : <user enters Tim>
Enter your name : <user enters Mark>
Enter your name: <user enters John>
Incorrect names: [‘Tim’, ‘Mark’]

Bonus Optional Task:

Edit the above program to allow the user to enter an integer after they enter the name. This integer defines how many ‘tries’ the user will get to enter the right name. If the user exceeds the number of tries, the program must stop.

Things to look out for

1. Make sure that you have installed and setup all programs correctly. You have setup **Dropbox** correctly if you are reading this, but **Python or Notepad++** may not be installed correctly. Click here if you need to see the setup guide for Python again.
2. If you are not using Windows, please ask your tutor for alternative instructions.

Still need help?

Just write your queries in your comments.txt file and your tutor will respond. Alternatively, visit www.hyperiondev.com and login to the Hyperion portal to view all methods of getting help.

3.4 Task Statistics

Estimated time for completion: 1.5 hours self-study.
Last update to task: 11/12/2014.
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Task Feedback link: **http://tinyurl.com/hyperionKZN**