Hyperion Development

Task: Working With External Data Sources - Output

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Introduction

Welcome to the Output Task!

Until now, the Python code you've been writing comes from one source and only goes to one place, you type it in at the keyboard and its results are displayed in the console. But what if you want to read information from a file on your computer, and/or write that information to another file?

This process is called file I/O (the "I/O" stands for "input/output"), and Python has a number of built-in functions that handle this for you. In this task, we will look at file output.

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The best way to get help is to login to **www.hyperiondev.com/support** to start a chat with your mentor. You can also schedule a call or get support via email.

Your mentor is happy to offer you support that is tailored to your individual career or education needs. Do not hesitate to ask a question or for additional support!

Based on the success of our previous article on 10 types of software development, we've decided to build on that to share 5 more types of what you could be doing as a software engineer in the field!

1. Front-end web development

2. Product Management

3. Site Reliability Engineer

4. Machine Learning developer

5. Natural Language Processing developer

Here is a link to a more in-depth explanation of these 5 types of a software engineer.

Writing Data to A Text File

Let's see how to create a new text file, and write data to it.

```
ofile = open('output.txt', 'w')
```

We create a new file called output.txt (it doesn't exist yet) in write mode. Python will create this file in the directory/folder that our program is in automatically.

```
name = raw_input("Enter your name: ")
```

We ask the user for their name. When they enter it, it is stored as a String in the variable name.

```
ofile.write(name+"\n")
```

We use the write function to write the contents of the variable name to the text file, which is represented by the object (a special type of variable you will learn more about later) ofile.

You must run this Python file for the file 'output.txt' to be created with the output from this program in it.

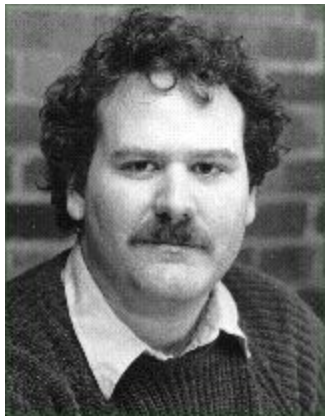
```
ofile.write("My name is on the line above in this text file.")
```

We write to the file again and the current contents of the file will not be overwritten. instead, it will be written on the 2nd line of the text file.

```
ofile.close()
```

Don't forget to close the file!

Sorry to interrupt but have you heard about Fred Cohen? He was the first person to create a computer virus. In 1983 he designed a hidden program that could infect a computer, copy itself, and then infect other computers through the use of a floppy disk. He did not just create problems for millions of users in the future but he was actually the pioneer of computer virus defence techniques.



- **Masood Gool**, Online Trainer

Instructions

Before you get started we strongly suggest you start using Notepad++ or IDLE to open all text files (.txt) and python files (.py). Do not use the normal Windows notepad as it will be much harder to read.

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

- 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. Feel free to write and run your own example code before doing the Task to become more comfortable with Python.

- You are not required to read the entirety of Additional Reading.pdf, it is purely for extra reference.

Compulsory Task

Follow these steps:

- We will write a program that allows students to register for an exam venue.
- First ask the user how many students are registering.
- Create a for loop that runs for that amount of students
- Each loop asks for the student to enter their ID numbers.
- Write each of the ID numbers to a Text File called "RegForm.txt"
- This will be used as an attendance register that they will sign when they arrive at the exam venue

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.
2. If you are not using Windows, please ask your mentor for alternative instructions.

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