Hyperiondev

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 has only received input in one manner and has only displayed output in one way — you type input using the keyboard and its results are displayed on the console. But what if you want to read information from a file on your computer and write that information to another file? This process is called file I/O (the "I/O" stands for "input/output") and Python has some built-in functions that handle this for you.

Get in touch

Connect for support

Remember that with our courses, you're not alone! You can contact your mentor to get support on any aspect of your course.

The best way to get help is to login to **www.hyperiondev.com/portal** 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!

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A note from the

HyperionDev Team

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:

```
name = input("Enter name: ")

with open('output.txt', 'w') as f:
    f.write(name+"\n")
```

We create a new file called **output.txt** (it doesn't exist yet) in write mode. Python will automatically create this file in the directory/folder that our program is in. We ask the user for their name. When they enter it, it is stored as a string in the variable called *name*. You then use the *write()* method in order to write to a file. The final line of code above will write the string value stored in the variable called *name* and a newline (\n) to the file that has been opened.

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

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

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

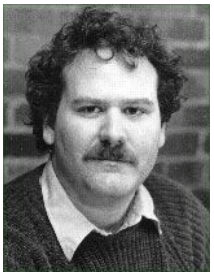
Don't forget to close the file if you're not using *with/as*!

```
ofile.close()
```

A note from our coding mentor

Ridhaa

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 the pioneer of computer virus defence techniques.



Instructions

First, read **example.py**. Open it using 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.

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Compulsory Task 1

Follow these steps:

- We will write a program called **student_register.py** 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 number.
- Write each of the ID numbers to a Text File called **reg_form.txt**
- This will be used as an attendance register that they will sign when they arrive at the exam venue.

Compulsory Task 2

Follow these steps:

- Create a new Python file in this folder called **combined.py**
- Create a text file called **numbers1.txt** that contains Integers which are sorted from smallest to largest.
- Create another text file called **numbers2.txt** which also contains Integers that are sorted from smallest to largest.
- Write the numbers from both files to a third file called **all_numbers.txt**
- All the numbers in **all_numbers.txt** should be sorted from smallest to largest.

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