Welcome to the CoGrammar

Working with external data sources

The session will start shortly...

Questions? Drop them in the chat. We'll have dedicated moderators answering questions.

Cyber Security Session Housekeeping

- The use of disrespectful language is prohibited in the questions, this is a supportive, learning environment for all - please engage accordingly. **(Fundamental British Values: Mutual Respect and Tolerance)**
- No question is daft or silly - **ask them!**
- There are **Q&A sessions** midway and at the end of the session, should you wish to ask any follow-up questions. Moderators are going to be answering questions as the session progresses as well.
- If you have any questions outside of this lecture, or that are not answered during this lecture, please do submit these for upcoming Academic Sessions. You can submit these questions here: **Questions**

Cyber Security Session Housekeeping cont.

- For all **non-academic questions**, please submit a query: **www.hyperiondev.com/support**
- We would love your **feedback** on lectures: **Feedback on Lectures**
- Find all the lecture **content** in you **Lecture Backpack** on GitHub.
- If you are hearing impaired, you can turn on live captions in your browser's settings.

Safeguarding & Welfare

We are committed to all our students and staff feeling safe and happy; we want to make sure there is always someone you can turn to if you are worried about anything.

If you are feeling upset or unsafe, are worried about a friend, student or family member, or you feel like something isn't right, speak to our safeguarding team:

Ian Wyles
Designated Safeguarding Lead

Simone Botes

Nurhaan Snyman

Rafiq Manan

Ronald Munodawafa

Tevin Pitts

Scan to report a safeguarding concern

or email the Designated Safeguarding Lead:
Ian Wyles
safeguarding@hyperiondev.com

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Stay Safe Series:

Mastering Online Safety One Week/step at a Time

While the digital world can be a wonderful place to make education and learning accessible to all, it is unfortunately also a space where harmful threats like online radicalisation, extremist propaganda, phishing scams, online blackmail and hackers can flourish.

As a component of this BootCamp the *Stay Safe Series* will/is designed to guide you through essential measures in order to protect yourself & your community from online dangers, whether they target your privacy, personal information or even attempt to manipulate your beliefs.

Shop Smart: Staying Safe with Online Purchases

- Ensure you have a secure connection.
- Use familiar merchants.
- Use secure passwords.
- Don’t make purchases on public connections.
- Make sure the payment method is secure.
- Look at online reviews.

Learning Objectives & Outcomes

- Define what external sources are.
- Identify different types of input.
- Open external files using Python.
- Read data from external files using Python.
- Write data to external files using Python.

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Working with external data sources

October 2024

External Data

In which scenarios would you read data from a file?

External Data

In which scenarios would you write data to a file?

Polls

Please have a look at the poll notification and select an option.

Which function is used to open a file for reading in Python?

A. read()
B. open('filename', 'r')
C. file('filename', 'r')
D. write('filename', 'r')

Polls

Please have a look at the poll notification and select an option.

How can you close an open file in Python?

A. file.stop()
B. file.close()
C. file.end()
D. file.quit()

External Files

- Refer to files that contain data we would like to read .
- Files we would like to write data to.
  - Textfiles, JSON, XML etc.
- We retrieve data in different ways and External files in one.

Why External Files?

- Data persistence across multiple instances.
- When a program is terminated, data is lost.
- Allow us to store data that can be retrieved for the next instance.
- Share data through files.

Opening Files

- Open a text file using a function called open().
- Add the path to our text file as a string to first argument.
- We add the operation as the second argument
  - There are a few things we can do
    - Read - “r”
    - Write - “w”
    - Append - “a”

Opening Files

- We can open a file and store it in a variable.

```
my_file = open("file_name.txt", "r")
```

- We can also use the ‘with’ keyword.

```
with open("file_name.txt", "r") as my_file:
```

Closing Files

- When we are done using a file we have to close the files to prevent memory leaks.
- Close a file using the file's name followed by .close()

```
my_file.close()
```

Reading Files

- **.read()**
  - Allows us to read all the content from our text file as a single string

```
my_file.read()
```

Reading Files

- **.readline()**
  - Allows us to read a file one line at a time.

```
my_file.readline()
```

Reading Files

- **.readlines()**
  - Allows us to return a list with each line as an item in the list.

```
my_file.readlines()
```

Writing Files

- **.write()**
  - Allows us to write content to our text file.

```
my_file.write()
```

Writing Files

- **.writelines()**
  - Allows you to write a list of strings to your text file.

```
my_file.writelines()
```

Polls

Please have a look at the poll notification and select an option.

Which method can be used to write data to a file in Python?

A. file.insert()
B. file.append()
C. file.write()
D. file.add()

Polls

Please have a look at the poll notification and select an option.

Which method is used to read the entire contents of a file into a string?

A. file.read_all()
B. file.readlines()
C. file.read()
D. file.get()

Questions and Answers

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Thank you for attending

SKILLS FOR LIFE
SKILLS BOOTCAMPS

Department for Education

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