Welcome to the

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Tutorial:
List, Dictionaries and External Files

The session will start shortly...

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

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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**

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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.

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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 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 radicalization, extremist propaganda, phishing scams, online blackmail and hackers can flourish.

As a component of this BootCamp the *Stay Safe Series* will 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.

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Digital Decorum:

The Importance of Regular Software Updates

- How to stay updated
  - Implement Automated Update Management
  - Conduct Regular Vulnerability Assessments
  - Establish a Patch Management Policy
  - User Awareness and Training

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List, Dictionaries and External Files

October 2024

Learning Objectives & Outcomes

- Everyone should be able to:

  - Read Data from files using built-in functions

  - Process data using python, utilising lists and dictionaries

  - Write data to new files

  - Demonstrate problem-solving skills

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Working with External Data

Imagine you have a book with 1,000 pages. Would you rather read the entire book in one sitting, or read it page by page over time? How might each choice affect what you remember or how you feel during the process?

Polls

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

What happens if you attempt to access a key that doesn't exist in a dictionary using square bracket notation (e.g., my_dict['missing_key'])?

A. Returns None
B. Throws a KeyError
C. Adds the key with a value of None
D. Returns False

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Polls

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

If you wanted to create a list with 5 elements, each set to 0, which approach would be most efficient?

A.   [0, 0, 0, 0, 0]
B.   [0] * 5
C.   list(0, 0, 0, 0, 0)
D.   for _ in range(5): my_list.append(0)

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Tutorial Challenge

1. **Student Registration**
   - Students can be added by entering their name, ID, age, and courses.
   - Data will be saved to a text file in a structured format.

2. **Update Student Information**
   - Users can update a student's information (e.g., adding a course or updating age).
   - The system will load data from the file, update the necessary fields, and save it back.

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3. Remove Student

- A student's record can be deleted by their ID.
- The file will be updated to reflect the removal.

4. Display All Students

- Display all registered students with their details.

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

Which of the following is a suitable approach for writing data into a new text file in python?

A.   open('filename.txt', 'r')
B.   open('filename.txt', 'w')
C.   open('filename.txt', 'a')

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Questions and Answers

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Thank you for attending

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