Welcome to the CoGrammar

Sequences

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.

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.

Download with Caution: Avoiding Dangerous Files

- Use Trusted Sources Only
- Look for HTTPS
- Avoid Clicking on Pop-ups
- Scan Downloads with Antivirus
- Keep Software Updated
- Beware of Free Downloads
- Check File Extensions

Learning Objectives & Outcomes

- Define lists, tuples, sets, and dictionaries in Python
- Differentiate between lists, tuples, sets, and dictionaries in Python
- Use lists, tuples, sets, and dictionaries within your code.

CoGrammar

Debugging

October 2024

Dictionaries

Why do we want to store sets of data rather than storing each piece of data in a new variable?

Dictionaries

Why is it important to be able to manipulate data in code?

Polls

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

How can you append an item to a list in Python?

A. my_list.add(4)
B. my_list.append(4)
C. my_list.insert(4)
D. my_list[4] = 4

Polls

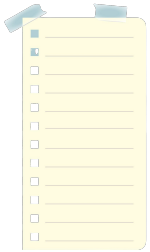
Please have a look at the poll notification and select an option.

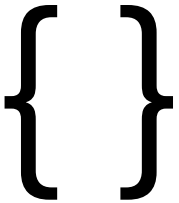
How do you define a dictionary in Python?

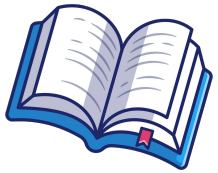
A. my_dict = [1: "apple", 2: "banana"]
B. my_dict = {1, 2, 3}
C. my_dict = {1: "apple", 2: "banana"}
D. my_dict = (1: "apple", 2: "banana")

Sequences

- 4 Main Sequence Types
    - Lists: for ordered collections.
    - Tuples: For fixed data
    - Sets: for unique items
    - Dictionaries: for key-value pairs, mappings



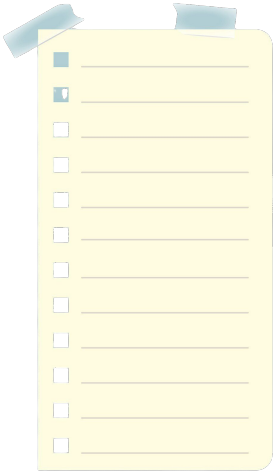




Lists

- Syntax: [ ] or list()
- Mutable
- Ordered
- Holds any data type
- Use Cases
  - Storing items in order.
  - Tracking data that will change

[1,2,3,4,5]



Tuples

- Syntax: ( ) tuple()
- Immutable
- Ordered
- Holds any data type
- Use Cases
    - Grouping fixed data together such as coordinates or user details that should not change.

(1,2,3,4,5)

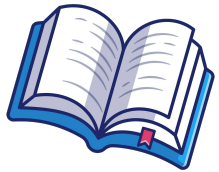
Sets

- Syntax: { } or set()
- Mutable
- Ordered
- Only allows unique elements.
- Use Cases
  - Removing duplicates
  - Membership testing
  - Mathematical operations like union and intersection.

{1,2,3,4,5}

Dictionaries

- Syntax: { } or dict()
- Mutable
- Stores data in key-value pairs
- Use Cases
  - Storing structured data (e.g., user profiles, product details).



{key:value}

Polls

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

What happens if you try to access a key that doesn't exist in a dictionary using square brackets ([])?

A. It returns None
B. It raises a KeyError
C. It adds the key with the value None
D. It raises a ValueError

Polls

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

What does my_list.pop() do in Python?

A. Removes the first element
B. Removes the element at index 0
C. Removes the last element
D. Adds a new element at the end

Questions and Answers

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Thank you for attending

SKILLS FOR LIFE
SKILLS BOOTCAMPS

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