Welcome to this CoGrammar Tutorial: Task Walkthrough

The session will start shortly...

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

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SKILLS FOR LIFE

SKILLS BOOTCAMPS

Department for Education

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Task Walkthrough: Handling Strings, Lists and Dictionaries

September 2024

Software Engineering 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**

Software Engineering Session Housekeeping cont.

- For all **non-academic questions**, please submit a query: **www.hyperiondev.com/support**

- Report a **safeguarding** incident: **www.hyperiondev.com/safeguardreporting**

- We would love your **feedback** on lectures: **Feedback on Lectures**

Safeguarding & Welfare

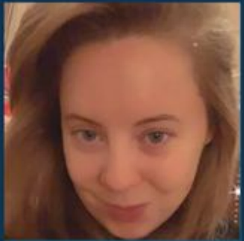
We are committed to all our students and staff feeling safe and happy; we want to make sure there is always someone you can turn to if you are worried about anything.

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

Rafiq Manan



Charlotte Witcher

Nurhaan Snyman

Ronald Munodawafa

Tevin Pitts

Scan to report a safeguarding concern

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

Skills Bootcamp Progression Overview

To be eligible for a certificate of completion, students must fulfil three specific criteria. These criteria ensure a high standard of achievement and alignment with the requirements for the successful completion of a Skills Bootcamp.

✅ Criterion 1 - Meeting Initial Requirements

Criterion 1 involves specific achievements within the first two weeks of the program. To meet this criterion, students need to:

- Attend a minimum of 7-8 hours per week of guided learning (lectures, workshops, or mentor calls) within the initial two-week period, for a total minimum of 15 guided learning hours (GLH), by no later than 15 September 2024.
- Successfully complete the Initial Assessment by the end of the first 14 days, by no later than 15 September 2024.

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Skills Bootcamp Progression Overview

✅ Criterion 2 - Demonstrating Mid-Course Progress

Criterion 2 involves demonstrating meaningful progress through the successful completion of tasks within the first half of the bootcamp.
To meet this criterion, students should:

- Complete 42 guided learning hours and the first half of the assigned tasks by the end of week 7, no later than 20 October 2024.

Skills Bootcamp Progression Overview

✅ Criterion 3 - Demonstrating Post-Course Progress

Criterion 3 involves showcasing students' progress after completing the course. To meet this criterion, students should:

- Complete all mandatory tasks before the bootcamp's end date. This includes any necessary resubmissions, no later than 22 December 2024.
- Achieve at least 84 guided learning hours by the end of the bootcamp, 22 December 2024.

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Advised Resources

- HyperionDev PDF notes
- Lecture: Sequences (11 September 2024 & Repeat on 15 September 2024)
- Example code files
- Task walkthrough lecture
- Research (Optional)

Learning Outcomes

- ❖ Apply practical string manipulation techniques such as modifying characters in a string.
- ❖ Implement dictionaries and lists together to perform calculations such as calculating expected profits.
- ❖ Explain the reasoning behind each code block and apply the logic to similar tasks.

Strings, Lists and Dictionaries

- **Strings** are sequences of characters that are enclosed within single or double quotes. Common operations we perform on strings are concatenation, slicing, and formatting.
- **Lists** are mutable, ordered collections of items which can be of any type. Lists allow for indexing, slicing, appending, and more.
- **Dictionaries** are collections of key-value pairs, where each key maps to a value. Dictionaries are unordered and are accessed using keys, not indices.
- There are lots of **useful methods** we can use on strings, lists and dictionaries, such as:
  - String Methods: split(), join(), replace()
  - List Methods: append(), pop(), sort()
  - Dictionary Methods: get(), keys(), values()

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Task Walkthrough: Auto-graded Task 1

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Follow these steps:

- Create a file called **alternative.py**.
- Write a program that reads in a string and makes each alternate **character** into an uppercase character and each other alternate character a lowercase character.

  E.g.: The string “`Hello World`” would become “`HeLlO WoRlD`”
- Now, try starting with the same string but making each alternative **word** lowercase and uppercase.

  E.g.: The string “`I am learning to code`” would become “`i AM learning TO code`”.

  Tip: Using the `split()` and `join()` functions will help.

Be sure to place files for submission inside your **task folder** and click “**Request review**” on your dashboard.

Task Walkthrough: Auto-graded Task 2

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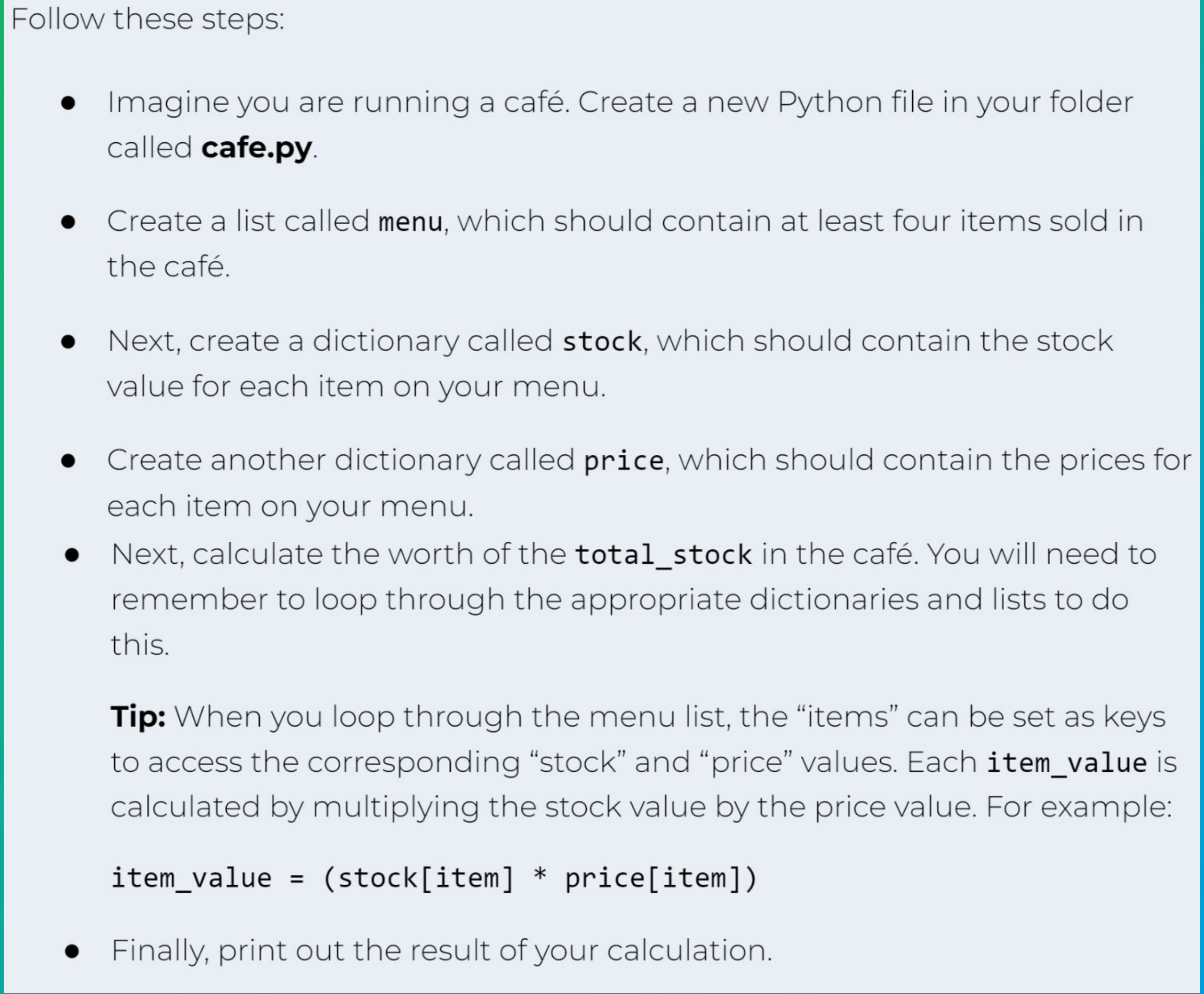

Follow these steps:

- Imagine you are running a café. Create a new Python file in your folder called **cafe.py**.

- Create a list called `menu`, which should contain at least four items sold in the café.

- Next, create a dictionary called `stock`, which should contain the stock value for each item on your menu.

- Create another dictionary called `price`, which should contain the prices for each item on your menu.
- Next, calculate the worth of the `total_stock` in the café. You will need to remember to loop through the appropriate dictionaries and lists to do this.

  Tip: When you loop through the menu list, the “items” can be set as keys to access the corresponding “stock” and “price” values. Each `item_value` is calculated by multiplying the stock value by the price value. For example:

  ```
  item_value = (stock[item] * price[item])
  ```

- Finally, print out the result of your calculation.

Questions and Answers

Thank you for attending

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