




# Welcome to the CoGrammar

## Skills Bootcamp: Control Structures & Iteration

The session will start shortly...

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



## Cyber Security Session Housekeeping

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- 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.

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



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](mailto:safeguarding@hyperiondev.com)

# Learning Objectives & Outcomes

- Utilise control structures and logical operators to create more complex conditions.
- Create continuous loops using while loops.
- Create code that loops a set amount of times using for loops.
- Create nested loops
- Optimise loop performance





# CoGrammar

## Control Structures and Iteration

October 2024

# Control Structures

In which scenarios would you use control structures(if, elif, else)?

# Control Structures

In which scenarios would you use while and for loops?



# Polls

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

What does the logical operator 'and' do in Python?

- A. Returns True if all expressions are True
- B. Returns True if at least one expression is True
- C. Returns False if all expressions are True
- D. Always returns False

# Polls

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

Which of the following control structures allows multiple conditions to be checked sequentially?

- A. if-elif-else
- B. while
- C. for
- D. break

# Number Guessing Game

The program picks a **random number** between 1 and 100, and the **user** has to **guess** it. After each guess, the program **tells** the **user** if the guess is **too high**, **too low**, or **correct**. The game continues until the user guesses correctly.

# Multiplication Table Generator

The program asks the user for a number and then prints the multiplication table for that number up to 12.

**Let's take a break**





# ***Stay Safe Series:***

Mastering Online Safety One week at a Time

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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.

## Download with Caution: Avoiding Dangerous Files

- To stay safe online, it's crucial to be selective about what you download, as malicious files can compromise your device or personal data. **Always download software and files from trusted sources such as official websites or well-known app stores.**
- Be wary of unsolicited email attachments, pop-up download offers, and links from unfamiliar sources, as they may contain malware or phishing attacks. Before downloading, double-check the file name and type, cybercriminals often disguise dangerous files with misleading names or extensions like ".exe" or ".pdf".
- Using antivirus software to scan downloads and keeping your operating system and applications up to date further reduces the risk of installing malicious files.

# Simple Voting System

The program **prompts users** to **vote** for one of four candidates (e.g., "A" or "B"). The program **keeps asking** for votes **until** a stopping **condition** (e.g., reaching a predefined total number of votes). At the end, it **announces** the **winner**.

# Password Strength Checker

Create a program that **takes** a **password** input from the user and **checks** if it contains at least **one uppercase** letter, **one lowercase** letter, and **one digit**. The program should **keep asking** for a valid password until **all conditions** are **met**.

# Summary

- We can use **logical operators** to create more **complex conditions** by adding multiple expressions.
- **Iteration structures** allow us to do **repetitive tasks** within a range or until a condition is met.



# Polls

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

Which statement stops a loop in Python?

- a. exit
- b. return
- c. **break**
- d. stop

# Polls

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

What happens if the condition in a `while` loop is always `True`?

- a) The program crashes immediately
- b) The loop executes only once
- c) The loop runs indefinitely until interrupted
- d) The loop skips execution

# Questions and Answers



# Thank you for attending



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