# Welcome to this CoGrammar QnA

Data Structures and Algorithms
The session will start shortly...

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



#### **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** throughout this session, should you wish to ask any follow-up questions.
- 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: <u>Questions</u>



#### Software Engineering Session Housekeeping cont.

- For all non-academic questions, please submit a query:
   www.hyperiondev.com/support
- Report a safeguarding incident:
   <u>www.hyperiondev.com/safeguardreporting</u>
- 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



Nurhaan Snyman



Scan to report a safeguarding concern



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



Ronald Munodawafa



Rafig Manan

## Skills Bootcamp Progression Overview



Progress through the successful completion of tasks within the first half of the program.

**To meet this criterion, students should,** by no later than **12 January 2025:** 

- Guided Learning Hours (GLH): Complete at least 60 GLH.
- Task Completion: Successfully complete the first 13 of the assigned tasks.

✓ Criterion 3 – End-Course Progress

Showcasing students' progress nearing the completion of the course.

To meet this criterion, students should:

- Guided Learning Hours (GLH): Complete the total minimum required GLH, by the support end date.
- Task Completion: Complete all mandatory tasks, including any necessary resubmissions, by the end of the bootcamp, 09 March 2025.



## Skills Bootcamp Progression Overview

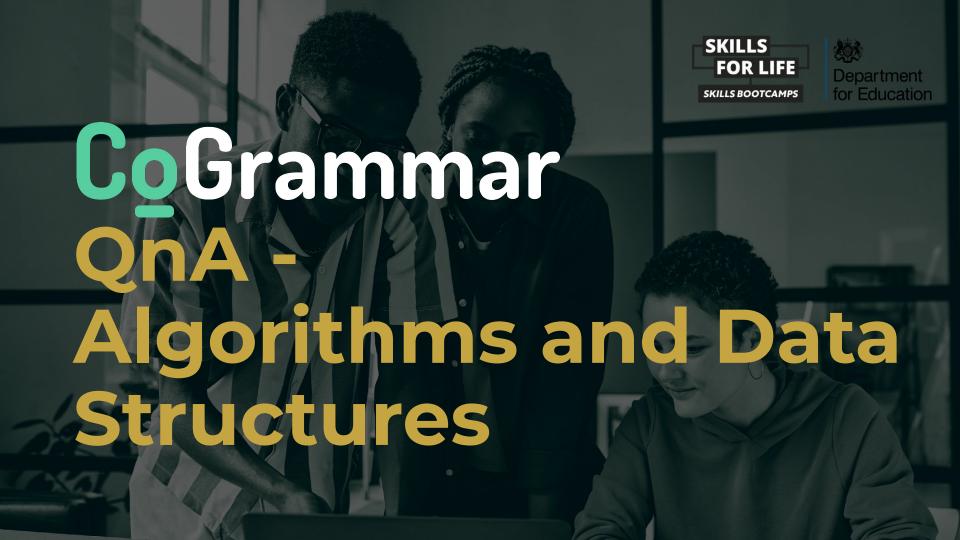
Criterion 4 - Employability

Demonstrating progress to find employment.

To meet this criterion, students should:

- Record an Interview Invite: Students are required to record proof of invitation to an interview by 30 March 2025.
  - South Holland Students are required to proof and interview by 17 March 2025.
- **Record a Final Job Outcome :** Within 12 weeks post-graduation, students are required to record a job outcome.





#### Learning Objectives & Outcomes

- Apply algorithmic thinking to solve real-world problems by writing structured pseudocode.
- Identify and select appropriate data structures for specific use cases based on their properties and efficiencies.
- Collaborate with peers to brainstorm and troubleshoot algorithmic and data structure challenges.
- Evaluate logical approaches for problem-solving by reviewing pseudocode, flowcharts, and data structure usage.



### Agenda



#### Relevance

- Introduction & Context
- Hands-on Activities & Q&A
  - Explore Scratch:
  - Data Structures
  - o Break (10 mins)
  - Algorithmic Thinking and Pseudocode
    - Warm-Up Exercises
    - Automated Parking Spot Allocation
    - Automated Teller Machine (ATM)



#### Resources

#### Additional Resources

- Scratch Practice
- o <u>Make a Flappy game</u>
- Online Flowchart Tools:
  - i. <u>draw.io</u>
  - ii. Lucidchart
- o Data Structure Visualization Websites:
  - i. <u>VisuAlgo</u>
  - ii. Printables CS Unplugged



## Questions and Answers





Thank you for attending







