



## Welcome to this session: Coding Interview Workshop - String Manipulation

The session will start shortly...

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



# 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.

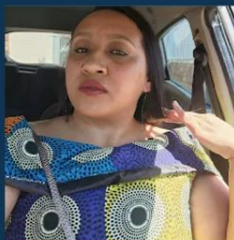
If you are feeling upset or unsafe, are worried about a friend, student or family member, or you feel like something isn't right, speak to our safeguarding team:



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](mailto:safeguarding@hyperiondev.com)

# Skills Bootcamp Coding Interview Workshop

---

- 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**

# Skills Bootcamp Coding Interview Workshop

---

- For all **non-academic questions**, please submit a query:  
**[www.hyperiondev.com/support](https://www.hyperiondev.com/support)**
- **Report a safeguarding incident:** **[www.hyperiondev.com/safeguardreporting](https://www.hyperiondev.com/safeguardreporting)**
- We would love your feedback on lectures: **[Feedback on Lectures](#)**
- If you are hearing impaired, please kindly use your computer's function through Google chrome to enable captions.

## Learning Outcomes

---

- ❖ **Outline common string manipulation** functions and techniques.
- ❖ **Solve common interview problems** such as longest palindromic substring, anagram detection, and string compression.
- ❖ **Optimize solutions** using two-pointer techniques, sliding window algorithms, and hash maps.



# Which technique is most efficient for finding a substring within a string repeatedly?

- A. Nested for-loops
- B. Recursion
- C. Sliding window
- D. String concatenation





# Which of these problems is best solved using a hash map?

- A. Finding the longest palindrome
- B. Checking if two strings are anagrams
- C. Compressing a string
- D. Reversing a string



# Practice the Structures

Let's practice String Manipulation by solving some classic problems for each paradigm.

Then we'll do the following problems together:

- [Binary Tree Inorder Traversal](#)
- [Symmetric Tree](#)
- [Course Schedule](#)







# Which approach is most efficient for finding the longest palindromic substring?

- A. Brute force all substrings
- B. Compare sorted characters
- C. Expand from the center
- D. Reverse and compare

# What does the sliding window technique help reduce?

- A. Memory usage
- B. Nested loops in substring search
- C. Recursion depth
- D. String comparison accuracy

## Homework

---

**Practise the skills we've developed by completing the rest of the LeetCode questions:**

- ❖ Practise speaking through your solutions and explaining how you approached each problem.
- ❖ In the next lecture we'll be covering the topic: "Maths for Programmers"
- ❖ You can have a look at the following LeetCode questions to prepare:
  - [Example 1](#)
  - [Example 2](#)
  - [Example 3](#)

## Summary

---

- ★ **Common string manipulation tools** and their performance characteristics.
- ★ How to **optimize classic string problems** using algorithmic techniques.
- ★ How to **analyze, write, and debug string problems** in a technical interview setting.

# CoGrammar

## Q & A SECTION

**Please use this time to ask  
any questions relating to the  
topic, should you have any.**

# Thank you for attending



**CoGrammar**



Department  
for Education