Welcome to the

CoGrammar

Searching and Sorting

The session will start shortly...

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

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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**

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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.
- If you are hearing impaired, please kindly use your computer's function through Google chrome to enable captions.

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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

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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 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.

Security Reminder

Stay Vigilant and Practice Safe Habits

- Biggest security risk is often human error.
- Stay vigilant by following the basics
    - Never share your passwords
    - Double-check any suspicious links or emails
    - Avoid unknown public Wi-Fi networks without using a VPN.
    - Cybersecurity is as much about good habits as it is about technology.

Learning Objectives & Outcomes

- Explain the purpose of searching and sorting,

- Compare different sorting algorithms.

- Compare different search algorithms.

- Implement searching and sorting algorithms in code.

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Searching and Sorting

November 2024

Searching and Sorting

Have you ever used search functionality in a program (e.g., searching in a file or database)?

designed by **freepik**

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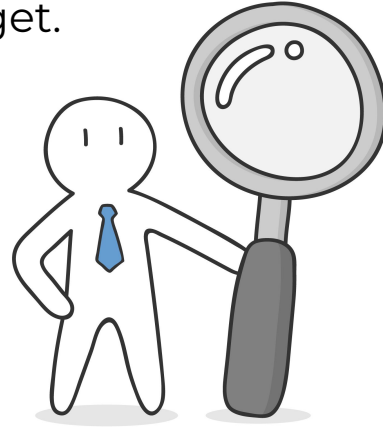# Sorting

How can you sort a list in Python?

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Algorithms

- A set of steps that can be followed to solve a problem.
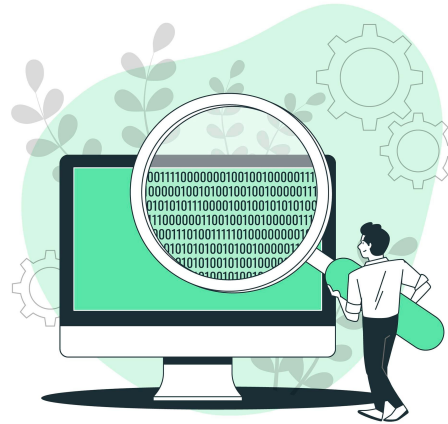- An algorithms usually get some sort of input and produces an output.

- Linear Search
  - Linear search is a method where you check each item in a list until you find the target.
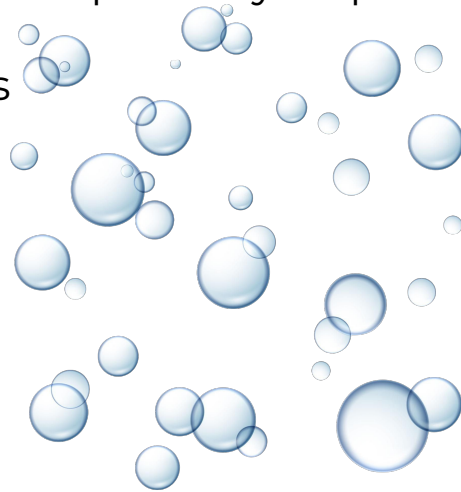
Searching

- Binary Search
  - More efficient method but requires the list to be sorted.
  - Process of checking the middle of the list each time then dividing the list in half based on the value.

Sorting

- Bubble Sort
  - A simple sorting algorithm that repeatedly steps through the list, compares adjacent elements, and swaps them if they are in the wrong order.

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Sorting

- Selection Sort
  - Selection sort is an algorithm that finds the smallest (or largest) element and moves it to the correct position.

Polls

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

Which algorithm sorts an array by comparing adjacent elements and swapping them if needed?

A. Insertion Sort
B. Merge Sort
C. Bubble Sort
D. Selection Sort

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Questions and Answers

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Thank you for attending

SKILLS FOR LIFE SKILLS BOOTCAMPS

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