Unit 8 - Lesson 7
Searching and Sorting

Computer Science A

🎯 Lesson Objectives

By the end of this lesson, you will be able to . . .

- Implement a linear or binary search algorithm to find a target element in a data structure
- Implement a selection, insertion, or merge sort algorithm to organize elements in a data structure
- Write algorithms to traverse multiple lists at the same time

🚀 Question of the Day

How can I implement searching and sorting algorithms when working multiple lists?

💡 Discuss:

- How does the **linear search** algorithm work?
- How does the **binary search** algorithm work?

💡 Discuss:

- Which is more **efficient**? Why?
- When is the binary search algorithm **not** the most efficient?

🎥 Searching Algorithms

What scenarios are ideal for each type of searching algorithm?

Complete the guided notes on the 📝 **Unit 7 Guide**.

💡 Discuss:

- How does the **selection sort** algorithm work?
- How does the **insertion sort** algorithm work?
- How does the **merge sort** algorithm work?

💡 Discuss:

Which is more **efficient**? Why?

🎥 Sorting Algorithms

What scenarios are ideal for each type of sorting algorithm?

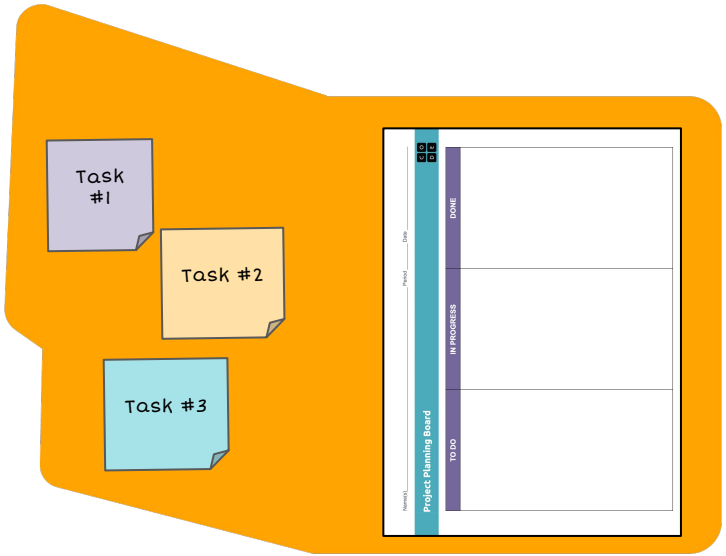
Complete the guided notes on the 📝 **Unit 7 Guide**.

Unit 8 - Lesson 8
Project Development

Computer Science A

✅ Do This:

Update your **Project Planning Board** and **Project Backlog** with any tasks you completed, changed, or added.



🎉 Practice

Navigate to Lesson 8, Level 1

✅ Do This:

Begin development on your Creative Coding with the Console Project.

Commit Your Code!

Commit Code

Commit your code and add a comment about what the work you completed.

Backpack

Save your classes to the **Backpack**.

It's time to . . .

MY CODE!

T **Tell** them something you like about their code.

A **Ask** them something about the code.

G **Give** a suggestion for improvement.

Unit 8 - Lesson 9
Privacy and Security

Computer Science A

🎯 Lesson Objectives

By the end of this lesson, you will be able to . . .

- Evaluate case studies on privacy and security breaches
- Weigh the tradeoffs between the utility of data collection and safeguarding privacy and security

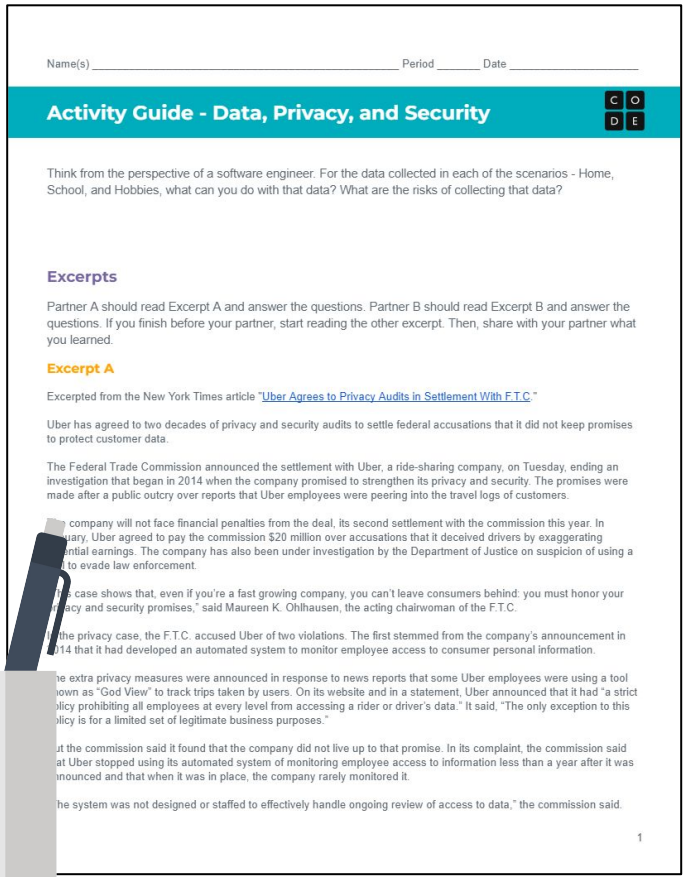
🚀 Question of the Day

What are the tradeoffs between the utility of data collection and safeguarding privacy and security?

Data, Privacy, and Security

📍 **You and your partner should have:**

- Data, Privacy, and Security activity guide
- pen / pencil



Name(s) _____ Period _____ Date _____

Activity Guide - Data, Privacy, and Security

Think from the perspective of a software engineer. For the data collected in each of the scenarios - Home, School, and Hobbies, what can you do with that data? What are the risks of collecting that data?

Excerpts

Partner A should read Excerpt A and answer the questions. Partner B should read Excerpt B and answer the questions. If you finish before your partner, start reading the other excerpt. Then, share with your partner what you learned.

Excerpt A

Excerpted from the New York Times article "Uber Agrees to Privacy Audits in Settlement With F.T.C."

Uber has agreed to two decades of privacy and security audits to settle federal accusations that it did not keep promises to protect customer data.

The Federal Trade Commission announced the settlement with Uber, a ride-sharing company, on Tuesday, ending an investigation that began in 2014 when the company promised to strengthen its privacy and security. The promises were made after a public outcry over reports that Uber employees were peering into the travel logs of customers.

company will not face financial penalties from the deal, its second settlement with the commission this year. In uary, Uber agreed to pay the commission $20 million over accusations that it deceived drivers by exaggerating ntial earnings. The company has also been under investigation by the Department of Justice on suspicion of using a l to evade law enforcement.

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the privacy case, the F.T.C. accused Uber of two violations. The first stemmed from the company's announcement in 014 that it had developed an automated system to monitor employee access to consumer personal information.

he extra privacy measures were announced in response to news reports that some Uber employees were using a tool own as "God View" to track trips taken by users. On its website and in a statement, Uber announced that it had "a strict olicy prohibiting all employees at every level from accessing a rider or driver's data." It said, "The only exception to this olicy is for a limited set of legitimate business purposes."

t the commission said it found that the company did not live up to that promise. In its complaint, the commission said at Uber stopped using its automated system of monitoring employee access to information less than a year after it was nounced and that when it was in place, the company rarely monitored it.

he system was not designed or staffed to effectively handle ongoing review of access to data," the commission said.

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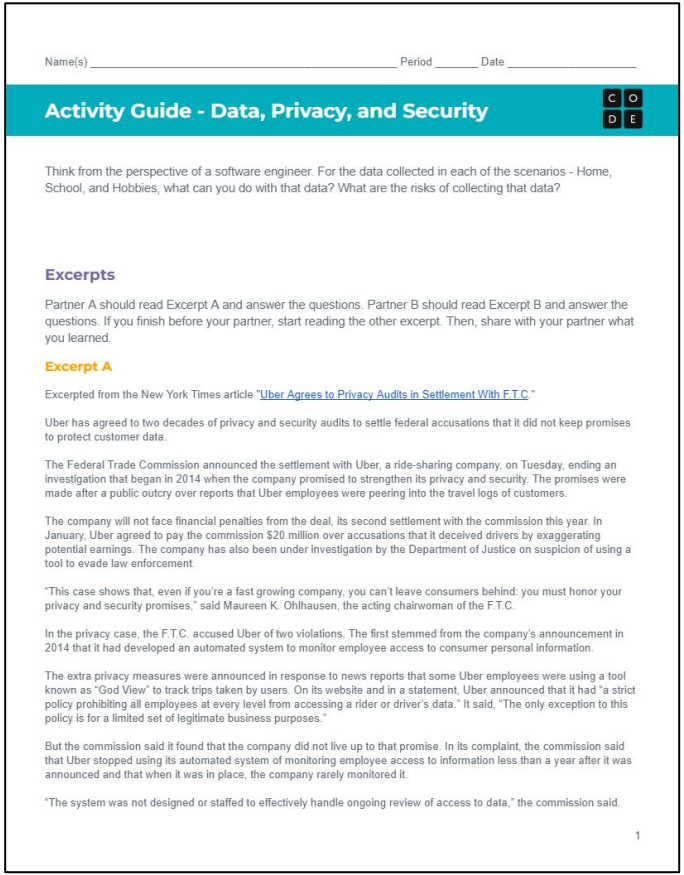
Data, Privacy, and Security

- Read the article excerpts with your partner
- Answer the questions on the activity guide



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"This case shows that, even if you're a fast growing company, you can't leave consumers behind: you must honor your privacy and security promises," said Maureen K. Ohlhausen, the acting chairwoman of the F.T.C.

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Creative Coding Project

During the project workdays, your goal is to complete the **third benchmark** of your project.

✅ Do This:

Update your **Project Planning Board** and **Project Backlog** with any tasks you completed, changed, or added.