Lesson 6: Writing to CSV Files

In this lesson, students will learn how to write data to CSV files using Python. CSV files are a common format for storing and exchanging data, making it an essential skill for students to learn. The lesson will cover writing data from both 1D and 2D lists to CSV files, providing students with the knowledge and practice they need to effectively work with this file format. By the end of the lesson, students will be able to confidently write data to CSV files and understand the importance of this skill in data management and analysis.

## **Objectives:**

- Students will be able to write data from a 1D list to a CSV file.

- Students will be able to write data from a 2D list to a CSV file.

## **Materials:**

- Computers with Python installed

- Projector or whiteboard

- Handouts with sample code and exercises

- Sample CSV files for demonstration

## **Bell-Ringer Activity (5 minutes):**

- Display a sample CSV file on the projector or whiteboard.

- Ask students to discuss with a partner what they think the purpose of a CSV file is and how it is different from a regular text file.

- After a few minutes, ask a few students to share their thoughts with the class.

## **Introduction (10 minutes):**

- Review the concept of CSV files and their purpose.

- Explain that in this lesson, students will learn how to write data from lists to CSV files.

- Discuss the importance of being able to write data to CSV files, as it is a common format for storing and exchanging data.

## **Direct Instruction (20 minutes):**

- Introduce the concept of 1D lists and demonstrate how to write data from a 1D list to a CSV file using Python.

- Show examples of code and explain each step.

- Provide handouts with sample code for students to refer to.

- Answer any questions and clarify any confusion.

## **Guided Practice (20 minutes):**

- Divide students into pairs or small groups.

- Provide each group with a set of exercises to complete.

- The exercises should involve writing data from 1D lists to CSV files.

- Circulate the classroom to provide assistance and guidance as needed.

## **Independent Practice (20 minutes):**

- Assign a task for students to complete individually.

- The task should involve writing data from a 2D list to a CSV file.

- Provide clear instructions and a sample 2D list for reference.

- Encourage students to think critically and problem-solve on their own.

- Monitor their progress and provide support as needed.

## **Exit Ticket (10 minutes):**

- Distribute exit tickets to each student.

- Ask students to write a brief summary of what they have learned about writing to CSV files.

- Collect the exit tickets before the end of the class.

## **Closure (5 minutes):**

- Recap the main points covered in the lesson.

- Emphasize the importance of being able to write data to CSV files.

- Encourage students to practice writing to CSV files outside of class to further enhance their skills.

- Preview the next lesson, which will focus on reading data from CSV files.

## **Extension Activity (optional):**

- Assign a more challenging task for students to complete as homework.

- The task could involve writing data from a nested 2D list to a CSV file.

- Provide clear instructions and additional resources for reference.

## **Common Core Standards:**

- CCSS.ELA-LITERACY.RST.9-10.3

- CCSS.ELA-LITERACY.RST.9-10.4

- CCSS.ELA-LITERACY.RST.9-10.5

- CCSS.ELA-LITERACY.RST.9-10.10