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Unit Plan:

Lesson: Pseudocoding Gerrymandering code

Grade and Course: Grade 10 AP CS Principles

Date:

Overall Goal/Objective of Lesson: Given the videos and presentation, I can create pseudocode for the code that is provided.

Content Objectives	Assessments
<p>Skill Objectives</p> <p>How to write pseudocode</p> <p>Standard here:</p> <p><i>9-12.CT.4</i></p> <p>Implement a program using a combination of student-defined and third-party functions to organize the computation.</p> <p><i>Clarifying Statement:</i></p> <p>The focus is on having students think about how to decompose a programming problem into functions and procedures, including working around the constraints imposed by specific functions or features provided in a library.</p> <p>Content-specific vocabulary: Pseudocode, Flowchart, functions, variables, parameters</p> <p>Assessments: Students will create pseudocode for the code provided, done in JavaScript.</p>	<p>Student written responses in Pear Deck link to presentation</p>

Materials/Resources:

Code HS

<https://codehs.com/curriculum/projects/proj-new-project-4>

Solution


https://codehs.com/library/solution_references/assignment/90252765

What is Pseudocode?

<https://www.codecademy.com/resources/videos/playlists/PLFzsFUO-y0HB1bMOpWwaLE6-1KD9ivINB/PwGA4Lm8zuE> (play video up until 3 minute mark)

Presentation

Sequence of Lesson Plan

Time Allotment 5 minutes	Anticipatory Set - Warm-up 
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Mrs Smith was killed in her home on a Sunday evening.

There were five people in the house at the time of the murder. The police ask them what they were doing at the time of Mrs. Smith's murder.

Read the following five witness statements carefully to determine who was the murderer.

Chef: "I was preparing dinner."

Mr Smith: "I was in the garden looking at the stars with my telescope."

Gardener: "I was pruning the trees."

Maid: "I was setting the dinner table."

Butler: "I was in the cellar getting wine for the meal."

The murderer is ...

Mr. Smith

because during the evening hours, you cannot see the stars.
The evening is said to be between 6pm - 9 pm.

Notable mention:

The gardener because you wouldn't be doing gardening at night.

20 minutes	<p>Lesson</p> <p>Powerpoint presentation</p> <p>3 minute video on pseudocode + group discussion on why it is important for coding.</p> <p>What is Pseudocode? https://www.codecademy.com/resources/videos/playlists/PLFzsFUO-y0HB1bMOpWwaLE6-1KD9lvINB/PwGA4Lm8zuE</p> <p>Groups will be created for the students to discuss the importance of pseudocoding. It is important for them to understand the concept before diving straight into the practice/application.</p>
15 minutes	<p>Practice</p> <p>Students can work on the coding parts of the gerrymandering code in Code HS https://codehs.com/library/solution_references/assignment/90252765</p> <p>There are mild, medium and spicy versions for the different levels of students to do the pseudocode. These are posted in the presentation.</p>
2-5 minutes	<p>Closing</p> <p>Exit ticket: In the pear deck, describe one reason why you think Pseudocode is important for writing an algorithm.</p>