Lab 4: Pseudocoding and Problem-solving

Challenge

For this lab, I worked on breaking down everyday tasks and games into pseudocode. This helps me think about how computers process information and how I can structure my ideas before jumping into coding.

Problems

The main challenge was figuring out how detailed to make the pseudocode. I wanted to be specific enough to be useful but not get too caught up in technical details. It was also interesting to think about how to break down familiar tasks into steps that a computer could understand.

Results

Task 1: Everyday Task Pseudocode

I chose to pseudocode the process of creating a digital art piece:

```
1. Open digital art software
    1.1. Create new canvas
    1.2. Set dimensions and resolution
2. Set up workspace
    2.1. Choose color palette
```

```
    2.2. Select brush tools
3. Create initial sketch
    3.1. Draw basic shapes
    3.2. Block in main elements
4. Add details
    4.1. Refine shapes
    4.2. Add textures
5. Finalize artwork
    5.1. Adjust colors
    5.2. Add final effects
    5.3. Save in multiple formats
```

Task 2: Game Pseudocode

I chose to pseudocode a simple rock-paper-scissors game:

```
1. Display game rules
2. Get player choice
    2.1. Show options (rock, paper, scissors)
    2.2. Wait for player input
3. Generate computer choice
    3.1. Randomly select from options
4. Compare choices
    4.1. Check for tie
    4.2. Check for player win
    4.3. Check for computer win
5. Display result
6. Ask to play again
```

Task 3: JavaScript Comments

Here's my pseudocode converted to JavaScript comments:

```
// Rock Paper Scissors

// Austin Spencer
```

```
// Display game rules
    // Show welcome message
    // List possible choices
    // Explain how to win

// Get player choice
    // Create input prompt
    // Validate player selection
    // Store choice in variable

// Generate computer choice
    // Create array of options
    // Use random number to select
    // Store choice in variable

// Compare choices
    // Check if choices match (tie)
    // Check rock vs scissors
    // Check paper vs rock
    // Check scissors vs paper

// Display result
    // Show both choices
    // Announce winner
    // Update score

// Ask to play again
    // Display final score
    // Prompt for new game
    // Reset or end game
```