Credit Name: CSE 2140 2nd Languange Programming
Assignment Name: TimeConversion and ObjectHeight

The following questions can helpy you in thinking critically about your problem-solving processes:

Understanding the Problem

How did you approach understanding the challenge?   I approached the challenge by carefully reading the instructions and identifying what the program was asking me to compute. For the TimeConversion program, I realized it was about dividing minutes into hours and leftover minutes. For the ObjectHeight program, it was about applying a math formula.

Were there any parts of the problem you found confusing at first? If so, how did you resolve that confusion?   At first, I found formatting the minutes (like showing 3:04 instead of 3:4) a little confusing, but I resolved it by remembering that string formatting or an if statement could ensure a leading zero was added.

Planning the Solution

Did you create a plan or break the problem into smaller steps before coding?   I created a step-by-step plan before coding. For TimeConversion, my plan was: 1) get user input, 2) divide by 60 to find hours, 3) use modulus % to get leftover minutes, 4) print with formatting. For ObjectHeight, my plan was: 1) get user input, 2) substitute the value into the formula, 3) display the height.

How did you decide on the tools, data structures, or algorithms to use?   I decided to use Scanner for input and basic math operators (/, %, *) because they were the simplest and most direct tools for the problem.

Implementation

Did you write the code in small pieces or attempt the entire solution at once?   I wrote the code in small pieces, testing after each step to make sure everything worked. First, I checked if the input was being read correctly. Then I tested the calculations separately before adding the final print statement.

How did you test your solution along the way to make sure it was working?   For testing, I tried different values like 60 minutes, 184 minutes, and times less than 4.5 seconds to ensure my solution gave the correct results.

Overcoming Challenges

What part of the problem was the most difficult for you?   The hardest part for me was handling formatting in the TimeConversion program, since minutes like 04 needed to be displayed with a leading zero. I solved this by using an if condition to check if minutes were less than 10.

How did you handle moments when you felt stuck or unsure of what to do next?   When I felt stuck, I broke the problem down into smaller parts and tested them one at a time, instead of trying to write everything at once.

Learning

Was there anything you learned that you think will help you with future challenges?   I learned that breaking problems into smaller steps makes programming much easier and less overwhelming. I also learned how useful the modulus operator is for working with time. Finally, I realized the importance of testing my code with different inputs to make sure it works in all cases.