Hint for Assignment <3>: Palindrome

Learning Objective:

A number that remains unchanged when its digits are reversed is called a Palindrome number. The goal is to identify and verify if the input is a palindrome or not.

Expected Completion Time:

Best Case: 15 minutes
Average Case: 20 minutes

Assignment Details:

- Create a class to solve this problem with a meaningful name.
- Implement the logic for reversing the digits of the given number
- Check whether the given input and the output are equal. If they are equal, then the given input is a Palindrome and if not, the given input is not a Palindrome.
- For Example
  Input: 121 -> Output: It is a Palindrome (because the number reads the same backward and forward)
  Input: 12345 -> Output: It is not a Palindrome (since the reversed number, 54321, is not the same as original)

Requirements:

- To reverse a number and check for palindrome, Declare two variables of int data type such as
  - '**input'** to assign the given number
  - '**output'** to store the reversed form of the input number
- Use for loop to reverse the digits of 'input'.
- Finally, compare 'input' with 'output' to print whether the given input is a palindrome or not.

Hints to solve:

- Implement a 'for' loop where the control variable 'i' starts with the value of the 'input' variable, continues as long as 'i' is greater than 0, and update 'i' by dividing it by 10 in each iteration.
- Use appropriate operator to calculate the remainder by dividing the 'input' by 10. Assign this value to an integer variable 'rem'.
- Use 'if' statement to compare the output with the given input.

Expected Outcome:

Upon completion, you should be:

- Comfortable in using for loop to control the flow of execution based on specific conditions.
- Understand how to use Arithmetic operators and conditional statements in programming.