Keith Yrisarri Stateson

COMSC 140 Python

Program Documentation

1/ Link

<https://github.com/DVC-COMSC/assignment-4-3-enduringwriter/blob/main/main.py>

2/ Program Purpose  
This program outputs a list of the remainder of dividing a number by 2 continually until the dividend is less than 2. The number is inputted by the user.

3/ Input/Output Description  
Input: The program takes one input from the user: an integer greater than 1.  
Output: The program outputs the list of remainders when the number is divided by 2 until the quotient is less than 2.

4/ Explanation of All Variables  
Number: The integer input by the user which is repeatedly divided by 2.  
Result: A list that stores the remainders of the divisions, which collectively represent the binary digits of the input number in reverse order.

5/ Flow Chart  
Start > Input integer > Validate input: if invalid, print error and retry; if valid, continue > Initialize result list > While number >= 2: append remainder and update number > Append final quotient > Output result list > End

6/ Lesson Learned  
Validate user inputs with conditional error handling loop. Use loop to repeatedly perform arithmetic operations. Use lists to store and manipulate sequences of data. Understand the binary representation of integers through repeated division by 2.

7/ Errors

None.