



Loops:

1. In this exercise you will create a program that computes the average of a collection of values entered by the user. The user will enter 0 as a sentinel value to indicate that no further values will be provided. Your program should display an appropriate error message if the first value entered by the user is 0.
2. A string is a palindrome if it is identical forward and backward. For example, “anna”, “civic”, “level” and “hannah” are all examples of palindromic words. Write a program that reads a string from the user and uses a loop to determine whether or not it is a palindrome. Display the result, including a meaningful output message.
3. Write a program that converts a binary (base 2) number to decimal (base 10). Your program should begin by reading the binary number from the user as a string. Then it should compute the equivalent decimal number by processing each digit in the binary number. Finally, your program should display the equivalent decimal number with an appropriate message.

Dictionary:

1. Create a program that determines and displays the number of unique characters in a string entered by the user. For example, Hello, World! has 10 unique characters while zzz has only one unique character. Use a dictionary or set to solve this problem.
2. In this exercise you will create a Python program that identifies the longest word(s) in a file. Your program should output an appropriate message that includes the length of the longest word, along with all of the words of that length that occurred in the file. Treat any group of non-white space characters as a word, even if it includes numbers or punctuation marks.