

Homework 3: Conditionals & Loops

L435/L555

Due Tuesday, September 27

1. (adapted from <http://www.greenteapress.com/thinkpython/html/thinkpython006.html>):

Background: Fermat's Last Theorem says that there are no positive integers a , b , and c such that $a^n + b^n = c^n$ for any values of n greater than 2.

Task: Prompt the user to input values for a , b , c and n , convert these to integers, and check to see if Fermat's theorem holds. If n is greater than 2 and it turns out to be true that $a^n + b^n = c^n$, the program should print, "Holy smokes, Fermat was wrong!" Otherwise the program should print, "No, that doesn't work."

Note: you can assume that users will input proper numbers; i.e., you do not need to check the data type.

2. Write a program that reads in names from a user, adds them to a list, sorts them in reverse, and outputs them, one per line. You should make clear to the user what the stopping condition is (e.g., typing `STOP`, entering nothing, etc.).
3. Write a program that accepts a number between 20 and 50 and doubles it until the number is greater than 100. If the number is not in the specified range, the user should be made aware of that.