Name:

ID:

M3 Challenge 02A

Submit here: <https://docs.google.com/forms/d/e/1FAIpQLScb3dZsRRu57IhHYS7xie8zQlVyI7ib-z29aJhWkka9mwvnog/viewform>

Python editor: <https://repl.it/@enaard/Python-3>

Part 1:

1). the program should ask the user to input the length and width of a rectangle. The program should output the perimeter (2 x Length + 2 x Width) and the area (Length x Width).

2) Write a program that checks if the first two characters of a string are equal to the last two characters of a string. If the length of the string is less than 2 output “short string”, if the first two characters equal the last two characters output “equal”, if they are not equal output “not equal”

Examples:

“atat” -> “equal”

“a” -> “short string”

“aaa” -> “not equal”

3) The ideal gas law asserts the following relationship: PV = nRT; where P is the pressure of a gas, V is the volume of a gas, n is the number of moles of gas, R is the ideal gas constant 8.134 J/(K\*mol), and T is the temperature. Given a constant volume of 1 m3 and 100 moles, write a python program to calculate the change in pressure as the gas is heated from 70 degrees Fahrenheit to 130 degrees Fahrenheit.

Convert Celsius to Fahrenheit: 9/5\*(Celsius temperature) + 32

Convert Celsius to Kelvin: (Celsius temperature) + 273