Due at 11:59 pm, Monday, October 28, in the Canvas Dropbox

You will be writing two python programs. You will put those program files and any data files needed into a single Homework7.zip file and upload that single file to Canvas.

a) Write a python program to calculate the thermal efficiency of an Ideal Rankine Cycle. The program will have a GUI *extremely similar to*:

Qt Ideal Rankine Cycle - C	T_Rankine.ui		[_ X
Input P_Low 8	kPa			
P_High 8000	kPa	Use x = 1.0)	
T_High 500		Use T_High	1	
	Calculate			
Output				
h2 1794.60	kJ/kg kJ/kg	Turbine Work Pump Work	963.7	kJ/kg kJ/kg
h3 173.36	kJ/kg	Heat Added	2576.9	kJ/kg
h4 181.42	kJ/kg Th	ermal Efficiency	37.086	%
	Exit			

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b) Write a python program to calculate and plot the least-squares curve fit polynomial for data contained in a text file. The text file will have only one header row followed by two columns of data – x and y pairs. The program will have a GUI *extremely similar to*:

	astSquares.ui*		- E
Input			
Filename: Data File 1.txt			
Linear Fit Qu	adratic Fit Cubic Fit	All Three	
Load an	d Calculate		Exit
Output			
Equation 3.000 *x^3 - 2.5279*x^2 +	24.3192*x - 14.3028		