Name: Mubashar Khan **Assignment #:** 4

Summary of Problem Statement

Problem # 1

Add data validation and controls to a program that will help consumers determine the efficiency of their stoves.

Known / Input

redo = 1; Defines redo so that the while loop will start
k = 1; Defines the counter.

Unknown / Output

None

Assumptions

None

Other Variables

k = k + 1; increases the count by 1 each time the program loops

Algorithm

The program required 3 while loops being added to meet the data validation and control requirements.
The first while loop encapsulates the whole program and using the counter k and the menu option 1 or 2 decides whether the program should loop again or not.
The second while loop asks the user to keep entering the time until they enter a positive value.
The third while loop tests to see if the efficiency is greater than 100 % and if it is, then it prompts the user to input a new power (P). The loop then tests to see if the power in sufficient enough to make the efficiency less than or equal to 100% and if it's not, the process repeats.

Test Cases

The test case I used to verify that the loops were working was Test Case 1 and 2 provided on the directions. In both cases the output matched the sample output exactly except for a difference of .1% efficiency which I attribute to rounding differences in my calculations vs those of the example.