**CSC 341**

**Test 1**

**Work from examples!**

1. **No\_1.py (Like Lab 2).** Write code that prompts the user for a substance's pH. Then perform the following tests:
   1. If the pH is greater than 14, print out "Out of range"
   2. Otherwise, if the pH is 8.5 or higher, print out "Strong Base"
   3. Otherwise, if the pH is 7.4 or higher, print out "Weak Base"
   4. Otherwise, if the pH is 6.6 or higher, print out "Neutral"
   5. Otherwise, if the pH is 5.5 or higher, print out "Weak Acid"
   6. Otherwise, if the pH is 0 or higher, print out "Strong Acid"
   7. If the windspeed is less then 0, print out "Out of range"
2. **No\_2.py (Like Lab 3).** One of the statistical quantities was the mean (or average). Adapt that code so that it sums the squares of the list items.

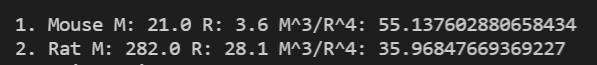
**numbs = [10, 20, 30, 1, 2, 3]**

**100+400+900+1+4+9=1414**

A screenshot of a computer

Description automatically generated with medium confidence

1. **No\_3.py (Like Lab 4 – Order.py).** Import the os module and use it to set the current working directory to be that of the python file. Read the file Kleiber.csv which contains on each line the animal, its mass in grams (M), and its metabolic rate in kcal/day (R) – both floats. Read the file and make three lists. Print out the data and include the quantity M3/R4 as shown below for the mouse and rat.



1. **No\_4.py (Like Lab 5).** Import the necessary modules. Then read the JSON data found at

<https://www1.lasalle.edu/~blum/c230wks/coen.json>

Write code that removes the movies that have runtimes greater than 100. Then write the new JSON data to a local file.

1. **No\_5.py (Like Lab 6 – the tkinter part).** Use the head start No\_5.py Edit the function that responds to the interface user clicking the button. Gather the ratings entered by the user, cast them as integers if necessary, calculate the average rating. Display on the interface the user's average rating.

Graphical user interface, text, application, Word

Description automatically generated

1. **No\_6.py (Like Lab 7).** Write a simple Play class that has fives properties. title, genre, date, wordNo and speechNo. (Note wordNo and speechNo are integers.)

Add a method that calculates the average number of words per speech for the play (wordNo/speechNo)

Read the data in Shakespear.csv and create a list of objects. Print out the data with each title, date, genre, along with its wordNo, speechNo, and wordsPerSpeech. For the wordsPerSpeech, you must use the class method and must display two decimal places for full credit.

